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Task Force on Labour Relations

Study No. 12

Industrial Conversion and Workers' Attitudes to Change in Different Industries

Jan J. Loubser
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The Ontario Institute for Studies in Education
Toronto

Privy Council Office
Ottawa

TASK FORCE ON LABOUR RELATIONS

(under the Privy Council Office)

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OTTAWA

OCTOBER 1969

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CHAPTER I

INTRODUCTION

The main purpose of this study is to examine the impact of industrial change on workers and their attitudes. Industrial change is a permanent state of industry. It is hardly possible to think of industry without calling to mind the continuous changes that must characterize every growing, developing or expanding industrial society. And yet, change cannot simply be taken for granted. It is not always welcomed by society at large nor by workers, the people most often adversely affected by the change. Nor can the failure to accept change, or resistance to it, or even violent protest against it, be adequately explained in terms of the adverse consequences of the change for those involved. Attitudes toward change are not governed solely or even mainly by utilitarian considerations, by calculations of costs or gains in terms of immediate tangible results. Often they are deeply rooted in factors seemingly remote from the direct impact of the change. Thus attitudes toward change represent a complex problem for the social scientist as well as for government, industry, and the community. It has become commonplace that these attitudes cannot be easily understood or changed.

The study of attitudes toward change calls for a comprehensive approach whereby factors which have been found to affect or might be expected to

influence workers' attitudes to change can be examined in a number of different change situations. In this study we do investigate industrial change in a variety of technological settings. In the design of the analysis we were guided by the central concern to discover how industrial conversion affects the attitudes of workers toward change in industry and how, in turn, these attitudes relate to the impact of conversion.

The data on which this study is based were collected between January and May, 1968. The following industries are included in the study: Automobile, Chemical, Electrical Products, Oil, Printing and Steel.

These industries have been selected on the basis of several criteria. More particularly, the expected variation in technology among the industries, their importance in the Canadian economy, and the fact that they have been the subject of roughly comparable studies in other countries, were important considerations.

As part of the research design we were interested in matching change and non-change situations. Since information that would allow us to construct two such populations of firms from which to sample was not available, we selected firms on a non-random basis, concentrating on considerations of accessibility and appropriateness. We have to emphasize, therefore, that, since we did not sample industries and did not sample firms within industries, our findings cannot be generalized to Canadian industries as a whole or to the specific industries included. Our sample does not represent any general population in the strict statistical sense. A representative sample of Canadian industrial workers is clearly more desirable, but let us say at the outset that the aim of this study is to examine variables and relations among them, not to describe populations. 1/ In the light of the complete absence

of such studies on the Canadian scene—and not many, if any, strictly comparable ones elsewhere—it was necessary to proceed with a study that would define parameters, a pilot study that would supply the type of information needed for a more carefully designed and focussed study of a representative sample of Canadian workers, something that would require an outlay of resources at least ten times that of the present study.

In its final composition, the sample includes sixteen firms from the above mentioned six industries. Table 1 reveals the breakdown of the firms on approximate total size, size of target sample, and number and per cent returns. Overall, we received 50.3% completed questionnaires which, for a mailed questionnaire requiring approximately one and a half hours to complete, is an excellent rate.

A. METHOD OF SAMPLING

The standard procedure for selecting respondents was to sample male hourly rated workers on direct production, skilled maintenance workers, and immediate supervisors in each firms. All others were excluded at the outset. In addition, in the unionized companies, we sampled union executives and stewards separately. The production workers in the sample are almost exclusively skilled and semi-skilled, since unskilled workers usually do not relate directly to the production process in these companies and our questionnaire was not quite appropriate for them. Thus the skill level in the sample is undoubtedly higher than that for the average Canadian industrial worker.

In all but the three larger firms, we included all the employees in each of the three categories of occupations, namely, immediate supervision,

TABLE 1

TOTAL SIZE OF FIRM, SIZE OF TARGET SAMPLE,
AND NUMBER AND PER CENT RETURNS BY INDUSTRY

<u>Industry</u>	<u>Firm</u>	<u>Size</u>	<u>Target Sample</u>	<u>Achieved Sample</u>	
Automobile	A1	6558	892	374	(41.9)
	A2	1540	310	129	(41.6)
	AUTOMOBILE	TOTAL	1202	503	(41.9)
Chemical	C1	700	313	134	(42.8)
	C2	800	436	156	(35.8)
	CHEMICAL	TOTAL	749	290	(38.7)
Electrical	E1	4934	740	378	(51.1)
	E2	250	216	77	(35.7)
	ELECTRICAL	TOTAL	956	455	(47.6)
Oil	O1	1570	470	317	(67.5)
	O2	536	213	100	(46.9)
	O3	124	55	21	(38.2)
	O4	141	79	55	(69.6)
	O5	196	71	45	(62.4)
	OIL	TOTAL	888	538	(60.6)
Printing	P1	101	78	61	(78.2)
	P2	175	135	71	(52.0)
	P3	191	149	65	(43.0)
	P4	800	351	264	(75.2)
	P5	1020	342	208	(60.8)
	PRINTING	TOTAL	1055	609	(63.4)
Steel	S	8405	783	377	(48.2)
	STEEL	TOTAL	783	377	(48.2)
GRAND TOTAL			5633	2832	(50.3%)

skilled maintenance, and direct production. In these three cases, we sampled randomly using a table of random numbers. In the automobile firm we sampled 50% of skilled maintenance and 20% of direct production in both plants and 50% of immediate supervisors in the smaller firm (but all immediate supervisors in the larger firm).

In the largest Electrical Products and Printing firms (E1 and P5) we sampled 50% of direct production, and all individuals in the other two categories. In the Steel firm we sampled 40% of supervision and 20% of the other two categories.

A few further comments should be made on the sampling procedure. In the automobile firms the sample proportion was not uniform for all production workers. It was 20% for all production occupations with the exception of assembly line workers, only 10% of whom were selected because of the very large number in that category. Furthermore, in A2, workers who started after September 1965 were not included in the sample frame because they were not involved in the change event for that company. Finally, in the steel industry, we were unable to obtain job titles for the sampling of individuals. We did have information on job class, a numerical ranking common to the Steel Industry, ranging from approximately 01 to 35. 2/ We excluded all those below job class 07 (i.e., the relatively unskilled). From the remainder we drew a 20% sample. Although we were less likely to get indirect production workers this way, we did end up with some individuals who were not direct production workers. The final sample reported in Table 1 and used in the analysis was cleaned up by omitting the small number of indirect production workers whom we had inadvertently sampled.

We discovered very soon after data collection commenced that it would be impossible to distribute questionnaires at the plants or to administer the questionnaire to groups of workers. As a result of different shifts, the reluctance of companies to interfere with production, and the possible bias that might be introduced by this method, we decided to mail the questionnaires directly to the workers' homes. 3/ They were mailed to all people in the sample, except for the 79 employees of the first firm included (P1).

The questionnaire was accompanied by a cover letter giving a minimum of information about the study but stressing its importance. These letters were different for each firm, containing the name of the firm, the specific plant, and wherever possible, the name of at least one representative of management and one of the local union with whom we had discussed the study. For all unionized firms we obtained permission from the union executive before carrying out the survey. In most cases the union leaders were willing to associate their names with the study. In two or three cases they refused, but compromised by allowing us to state that union officials had no objection to the survey. The questionnaire was followed up after about ten days with a postcard asking again for participation. After another ten days we sent a letter with a final appeal and a request that the blank questionnaire be returned if the individual did not wish to participate. We picked three companies with low return rates and two with high returns for a further follow up in which we asked potential respondents why they did not wish to fill in the questionnaire. In this way we hoped to be able to determine if any bias entered our data as the result of selective participation. The returns from this letter indicate that many people did not participate because they felt that some of the questions were too personal and were not related to labour

relations and the work world (the proposed terms of reference for the study). We may add that refusal to participate was not the only reason for not responding. We failed to locate some individuals because they had moved. A few were not able to read or write English. Still others had left the employ of the company by the time they received the questionnaire. Thus per cent returns would be higher than fifty if we excluded these people who, in one sense, were not "potential" respondents.

In constructing the questionnaire we pooled items tapping relevant variables from various studies of industrial workers in the United States, Great Britain and Canada. However, we designed the majority of items ourselves because strictly comparable studies had not been done elsewhere. The questionnaire went through several revisions and was pre-tested on a small number of workers in a steel plant in a suburb of Toronto. This pre-test confirmed our impression that it would not be a fully appropriate instrument for unskilled workers. 4/

The change event specific to each company was chosen in consultation with the management of the company. The nature of this change and when it took place was then described briefly on a separate sheet, without any evaluation of its impact on workers. This sheet was inserted into the questionnaire at the appropriate place. Respondents were asked on the sheet to keep the particular event in mind when they answered the section on change and its impact. In this way we ensured that all respondents from a particular firm would have the same change event in mind. This, we hoped, would give us a firmer basis for generalization about the impact of change than questions about change in general, or questions about any change a respondent might select, would have given us. We inserted these sheets even for

companies which we classified as non-change. In these cases the described change was clearly a minor one with very little conceivable impact on workers.

The pre-test indicated that the questionnaire would take the average worker about one and a half hours to complete. We did in fact ask respondents how long it took them to fill in the questionnaire. The mean time for the total sample was only fractionally over one and a half hours.

To a question asking respondents whether they found the questionnaire interesting or dull, 86% replied that it was interesting. Space was provided for comment at the end of the questionnaire and the remarks written in were overwhelmingly positive. Of course, these results are based on a 50% return.

One may argue that nonrespondents are likely to have negative opinions and lack interest in the questionnaire. This is probably true, but we feel that the accuracy of the information that we did receive is all the more sound. In other words, we assume that the majority of those who did fill in the questionnaire were interested and sincere in answering the questions as accurately as they could. The comments at the end of the questionnaire also tend to confirm this interpretation.

We are still faced with the important question of whether respondents differed from nonrespondents on certain major dimensions. The literature on this issue suggests that the greatest differences occur in samples of general or heterogeneous populations (Wallace, 1954). Our data is based on populations relatively homogeneous in terms of social class, education, and occupation (i.e., all respondents are supervisors or manual workers from only six different industries).

Still, nonrespondents may differ from respondents on important characteristics. One possibility is that nonrespondents may be more dissatisfied with their jobs than respondents. If this is true for nonrespondents in general, it should not affect comparisons across industries. Thus, if the most dissatisfied workers in each industry did not answer the questionnaire, relative comparisons across industries should not be affected.

A final point on the issue of nonrespondents is to repeat that we do not claim to have a randomly selected representative sample. The coding procedure was as follows. If a questionnaire had one or more pages unanswered it was eliminated from the returns. All information from the completed questionnaires was transferred to IBM coding sheets. Since almost all items were pre-coded this was basically a straight job of transcription. If a pre-coded item was left unanswered or the respondent circled more than one response the specified column was left blank.

On the few open-ended questions, categories were proposed in advance and tested on about one hundred questionnaires. Generally the proposed categories were based on experience with a pre-test and were found to be satisfactory, although in some cases it was necessary to refine or alter the code. In addition to information in the questionnaire, certain objective information obtained from the firm was coded for each respondent (e.g., size of firm, frequency of change in the firm, specific impact of the change).

The coding on each questionnaire was checked by aligning codes for specified columns and by checking every fifth item. If two or more mistakes were found on one line the entire card was checked against the questionnaire. All the open-ended questions were coded and check coded by research assistants familiar with the project.

B. SOCIAL CHARACTERISTICS OF THE SAMPLE

A description of a few social characteristics of the sample permitted us to see to what extent the social composition of respondents varied by industry. This sensitized us to the possible influence of these factors on the findings and indicated which of these factors it would be important to control for.

Two of these characteristics, age and education, have so universally been demonstrated as important factors in people's attitudes and opinions that we will use them throughout the study as controls whenever possible. The description of these characteristics here is, therefore, of special importance for the rest of the study.

1. Age

Previous findings indicate that age is an important factor in attitudes to change, with younger people usually more likely to favour change than older people (Palmer, 1957-58). These findings suggest that age 35 is a kind of watershed as far as the difference made by age is concerned—contrary to the hippie dictum not to trust anyone over 30. Because of the age distribution in our sample (see Table 2), we had to choose 40 as an arbitrary cutting point in order to get comparable proportions in each category: 41% are under 40 years of age and 59% are over 40. There are noticeable differences in age composition among the industries. The workers in Chemicals 5/ and Oil are somewhat older than those in the other industries, while those in Printing and Steel are somewhat younger.

TABLE 2

AGE AT LAST BIRTHDAY BY INDUSTRY
(in percentages)

Percentage reporting age:											
INDUSTRY	Under 20	20-24	25-29	30-34	35-39	40-44	45-49	50-65	Over 65	Total	No. of cases
Automobiles	-	4.8%	10.7%	8.7%	18.1%	19.4%	18.5%	19.6%	0.2%	100.0%	496
Chemicals	-	6.0	6.3	3.2	13.0	15.1	18.6	37.8	-	100.0	285
Electrical	0.4	5.3	8.7	8.9	12.9	16.2	21.6	25.6	0.4	100.0	450
Oil	-	1.5	4.5	9.3	16.2	18.8	17.1	32.6	-	100.0	538
Printing	2.0	6.2	11.9	13.2	18.7	12.8	11.6	21.6	2.0	100.0	665
Steel	-	4.0	8.5	13.9	21.1	18.4	14.4	19.7	-	100.0	375
TOTAL	0.5	4.6	8.7	10.0	16.9	16.6	16.7	25.4	0.6	100.0	
No. of cases	15	129	245	282	476	467	465	714	16		2809

No. of non-responses = 23

2. Education

Education is perhaps the most important social characteristic having an effect on attitudes to change, whether social or technological. The better educated usually are more favourable in their attitudes toward change than those with lower education. In the total sample, 25% have completed high school or more education (Table 3). There are few marked differences among the industries with Oil being slightly more educated.

As a matter of interest, we may note that only 11% of the total sample report that their fathers had completed high school or more education as compared to 25% in the sample itself. There is, therefore, considerable educational mobility represented in the sample.

3. Income

While the differences among industries in education are small, the differences in income are substantial (Table 4). In Automobiles, Chemicals, and Electrical Products, reported incomes are lower than in Oil, Printing, and Steel. Oil workers especially are well paid relative to those in other industries, with 96% reporting more than \$7,000 a year.

4. Others

A few other social characteristics of the sample may be noted briefly. Ninety per cent of those in our sample are married. On religious affiliation, 25% of the respondents say they are Catholic, 59% Protestant, and 14% profess no religion. Twenty-eight per cent consider themselves supporters of the Liberal Party, 19% of the Progressive Conservatives and 34% of the New Democratic Party.

TABLE 3

EDUCATION COMPLETED BY INDUSTRY
(in percentages)

Percentage having:

INDUSTRY	Some grade sch.	Comp. grade sch.	Some high sch. (acd)	Some high sch. (tec)	Comp. high sch. (acd)	Comp. high sch. (tec)	Some col- lege	Comp. col- lege	Grad. of prof. train.	Total	No. of cases
Automobiles	8.2%	24.9%	27.4%	14.7%	7.6%	9.4%	3.6%	1.4%	2.6%	100.0%	498
Chemicals	8.3	19.1	30.5	17.4	5.9	8.0	4.5	4.2	2.1	100.0	288
Electrical	4.8	23.1	27.0	19.8	7.7	14.5	1.8	0.2	1.1	100.0	454
Oil	3.9	12.7	33.7	19.6	11.8	12.1	3.4	0.9	1.9	100.0	535
Printing	3.5	13.3	29.3	30.8	6.9	11.8	3.3	0.5	0.6	100.0	663
Steel	12.1	18.8	27.5	19.3	5.9	9.9	2.7	1.1	2.7	100.0	373
TOTAL	6.3	18.1	29.3	21.2	7.9	11.2	3.2	1.1	1.7	100.0	
No. of cases	176	510	824	595	221	316	89	32	48		2811

No. of non-responses = 21

TABLE 4

YEARLY INCOME FROM PRESENT JOB, BEFORE DEDUCTIONS BY INDUSTRY
(in percentages)

Percentage with yearly income:

INDUSTRY	Under 3,000	3,000- 3,999	4,000- 4,999	5,000- 5,999	6,000- 6,999	7,000- 7,999	8,000- 8,999	9,000- 9,999	10,000 or more	Total	No. of cases
Automobiles	0.2%	0.2%	0.6%	14.6%	38.0%	14.6%	11.4%	10.8%	9.6%	100.0%	500
Chemicals	-	-	0.7	10.4	38.1	25.6	12.8	6.2	6.2	100.0	289
Electrical	0.2	-	1.1	15.1	32.0	29.9	13.5	4.4	3.8	100.0	451
Oil	-	-	-	0.4	3.2	15.4	34.7	26.6	19.7	100.0	533
Printing	1.4	1.8	1.4	3.3	12.4	31.7	21.9	12.1	14.0	100.0	663
Steel	-	-	-	2.1	13.6	33.5	28.1	12.0	10.7	100.0	374
TOTAL	0.4	0.5	0.7	7.2	21.1	24.9	21.0	12.8	11.4	100.0	
No. of cases	11	13	19	203	394	700	590	359	321		2810

No. of non-responses = 22

As for class identification, 1% say they belong to the upper class, 20% to the upper middle, 34% to the lower middle, 45% to the working class and only 0.20% to the lower class. In terms of background, 42% of the sample say they grew up in an area with less than 20,000 people. The printing industry is the only one that differs significantly from the mean with only 23% in this category, which is not surprising since all printing firms are located in Metro Toronto.

One of the most interesting comparisons among industries concerns place of birth. In the total sample, 69% were born in Canada. However, in Automobiles the proportion is only 47%. In Steel and Oil it is 87% and 81%, respectively. The figures for the other industries are close to the total sample figure.

It will not be feasible to control for possible effects these differences might have on the relationships we examine in the various chapters of the study. We are confident, however, that controls for age and education are the most important. 6/ In this way, we hope to be able to eliminate most of the effects that differences in the social characteristics of our sample could have on the relationships of the variables of occupation, company, labour relations, and technological structure with attitudes to change in industry.

The analysis in the following chapters is organized around the worker in order to map out the various factors that can be expected to influence his attitudes to industrial change. In the next chapter we describe the various change events in each industry, and the perceptions and evaluations of these changes by the workers. In Chapter III we examine in some detail various aspects of the complex area of attitudes toward work-related changes. In the next four chapters we consider the relationships of a whole range of

factors to attitudes toward industrial change. In Chapter IV we focus on the worker's attitudes to his immediate job in terms of intrinsic and extrinsic job satisfaction and alienation. Chapter V concerns a wider set of aspects of the worker's situation, his occupation level and his relation to technology. This leads us to the next set of factors which derive from the nature of the plant or firm and the worker's relationship to it. In the final phase of the analysis—Chapter VII—we examine the labour-management system and its relevance to the impact of industrial conversion on workers' perceptions of and attitudes to change.

REFERENCES

- 1/ Blalock (1960: 410) makes the point that "in exploratory studies, the main goal of which is to obtain valuable insights which ultimately lead to testable hypotheses, probability sampling either may be too expensive or lead to fewer such insights".
- 2/ See Job Description and Classification Manual (United Steelworkers of America- AFL/CIO and Co-ordinating Committee Steel Companies, January 1963).
- 3/ In many ways the mailed questionnaire was the most appropriate way of gathering our data. (See Wallace, 1954).
- 4/ A copy of the final form of the questionnaire is reproduced in Appendix B.
- 5/ We have adopted the convention of referring to the firms in our sample as simply Chemicals, Oil, etc., when we discuss the differences among industries. This is convenient and economical but it does run the risk of misinterpretation. We want to emphasize again that the sample is not representative of any industry and that this usage of industry names should not be misread and implying that we can generalize our findings to any industry as a whole. Hence, whenever we use the term "Chemicals", for example, we mean by it "the two chemical firms included in this study" and nothing more.
- 6/ We also found it necessary in the analysis to control for the degree of co-operation or conflict in labour-management relations because this factor related to so many different aspects of a respondent's relationship to his work.

CHAPTER II

THE IMPACT OF CHANGE

A. THE CHANGE EVENTS

The specific change events studied in each firm and the worker's perceptions and evaluations of these changes are the subject of this chapter. In the selection of companies it proved impossible to locate comparable change situations by industry. In some industries we were unable to find current major changes at all. Moreover, our results are reported on industry and not for firm. Therefore, some industries are made up of both change and non-change firms. 1/ It should also be mentioned that even for change firms the change was less likely to have affected the skilled maintenance sample. In order to facilitate understanding of the findings, it is important to describe briefly the change events by firm as to their nature and scope of impact. 2/

1. Automobile

Previous to February 1968, the Car Assembly Plant of Automobile 1 3/ (N:374) 4/ produced a mixture of compact and regular models. In 1967 the decision was made to switch the plant completely over to standard models. Thus, at the time of the study (February-March 1968) the model mix was changed to six standard and one compact model, and finally during March 1968, the compacts were completely phased out.

In the earlier production process, the chassis of the two different models had been assembled on separate production lines because of differences in construction. From the completed chassis stage both types of units entered a common final assembly line. In the phasing out of compact models nearly all production workers were affected to some extent. In particular the chassis line for the compacts was gradually closed down and most of the workers transferred to other chassis lines. All workers on the final assembly line were affected to the extent that the product became more uniform. This may be an important change to the production worker. The assembly line is considered to be the epitome of repetitive and alienating work (Walker & Guest: 1952: 9). It may be that the change at Automobile 1 to the production of a single type of model has further reduced whatever little variety there was on the line.

The change at Automobile 2 (N:129) was one of the few plant-wide radical changes we were able to study. In June 1965 the Engine plant of this company was shut down and fully re-organized and re-equipped with the latest high speed automated (continuous, integrated and electronically controlled) metal working machinery. In June and August of 1965, 1,391 employees were laid off while the new equipment was being installed. Recalls began in September 1965 and were completed by late February 1966. Several hundred additional new workers were added in March and April. It can safely be said that, objectively speaking, the jobs of all production workers were significantly affected, becoming much more automated.

On the whole, we consider the changes in the sampled automobile industry to be significant in the sense that, objectively speaking, these changes had some effect on the jobs of a large proportion of the production workers.

2. Chemical

In the chemical industry two plants of the same company were studied. In one plant only a minor change was involved. In the other the change radically affected an entire department. In Chemical 1 (N:134) hollow electrodes were installed in three carbide furnaces between September 1966 and November 1967. This is a method whereby fine coke and lime are introduced directly into the furnace. This utilizes the raw material more effectively. The change affected 25 of a potential sample of 313. It is difficult to assess the extent to which the change affected these individuals, particularly since it did not change their relation to the technology in any important sense, but it is probable that it was not a very important change.

In Chemical 2 (N: 156), a new highly automated ammonia plant was built and came into operation in the last few months of 1966. The old plant was shut down in June 1967 after the newer plant came on full stream. 5/ The ammonia department consists of about 30 people in a potential sample of 436. From this point of view, despite the fact that it was an important change in the plant, it was not necessarily widespread in its direct effects.

3. Electrical Products

After considerable effort to locate major changes in the electrical industry, we were unable to find satisfactory clear cut situations. At Electric 1 (N: 378) there have been many changes in the past years but none that affected more than a handful of people at one time. We took the option, for this sample, to refer in general to technological changes at the plant during the past few years, and to give two examples of the types of changes

we had in mind. One example was the introduction of electronics into process control equipment, as a result of which smaller panels could be used. The other example referred to the reduction in size of motors as a result of better insulation techniques. Therefore, although we do not have a single concrete issue of change for this sample, the changes referred to should have a concrete meaning to the workers, roughly comparable to that of a single event.

An organizational change in July 1967 at Electric 2 (N: 77) divided the production department into two divisions, Turbine Manufacturing and Air Handling. This meant that there were two production managers instead of one, and some of the foremen had to report to a different supervisor. But for the rest of the workers in the plant this was probably a change in name only as their jobs were likely not affected.

Thus changes in the Electrical Products Industry were not satisfactory from our point of view, although the change at Electric 1 may be more meaningful than we anticipate.

4. Oil

The Oil Industry, consisting of five different refineries, reflects a mixture of change and non-change situations. Oil 1 dominated the Oil Industry sample (N: 317 of 538). During 1967 several process units were integrated and combined in a single complex with central controls. This centralization, known as Complex No. 1, includes a computer which controls the production process automatically (the first in Canada). The new unit became operational early in 1968, four months before we administered the questionnaires. This is potentially and symbolically a very basic change.

Computerization of production is the ultimate in automation. The extent of the impact of the change at Oil 1 is not at this time clearly evident (87 workers of a target sample of 470 were directly involved in the change). Complex No. 1 is just the first of two centralization programs. Moreover, it has not yet been completely debugged, having been operational for only a few months. Thus its full impact will not be known for some time to come. Even at this stage, it still seems to be an important change to consider.

At Oil 2 (N: 100) a gas plant is being added to the refinery. It was on the point of being completed at the time of our study (May 1968). For this reason it is premature to consider its impact. In addition, we do not consider this change a basic one in relation to the operation of the refinery because it will only directly affect a handful of workers.

In two plants, Oil 3 (N: 21) and Oil 4 (N: 55), a training program for operators was the change event studied. This is an on-the-job program, sponsored by the company, to provide continuous training in the technological procedures and developments in the oil industry. It is a qualitatively different type of change from our other issues which are mainly technological in nature, but it may have significant affects on the worker nonetheless.

In the final oil refinery sampled, Oil 5 (N: 45), a new Hydrocracker Unit came into operation about six months before our survey. This new unit is the latest development in hydrocracking and was installed to supplement the refinery's existing cracking capacity. We consider the change to be an important one because it directly affected the jobs of 23 of the 40 production workers.

In sum the changes in the oil industry are somewhat different from each other. The sample size of Oil 1 will likely dominate the findings. On the whole, we classify the changes studied in two of the plants (Oil 1, 5) as relatively basic, while the events studied in the other three plants could be classified as non-change given the nature of the events in two of the plants (Oil 3, 4) and the minimal impact of the other (Oil 2).

5. Printing

Characteristic of the printing firms in our sample were changes that affected a small proportion of workers. One year before data collection, Printing 1 (N:61) installed two offset printing machines. Four people re-trained to operate the new machines. The workers who took the new jobs had the opportunity to learn new skills and earn higher pay.

In September of 1967 (five months before the administration of the questionnaires), an Alphatype was added to the equipment of Printing 2 (N: 71). The Alphatype is a photo composing method whereby codes are punched on magnetic tapes and transformed on positive film. Six workers retrained to operate the new equipment. This too, then, was a minor change.

In June 1967 (eight months prior to our study) Printing 3 (N: 65) installed a phototypesetting operation. As in the other two small printing firms, only a few workers were involved. Four workers were retrained for the new unit but, unlike the first two firms, three additional workers were hired. Photocomposition is an interesting issue in the printing industry. It is the newest form of typesetting which really has not yet been widely adopted. Potentially, it could entirely displace traditional typesetting although it will probably be used by most firms to increase capacity rather than to cut back, at least in the short run. The International Typographical

Union has taken the position that only members of the printing trades should be allowed to operate new equipment (through retraining). 6/ Photocomposition, however, requires skills (e.g., photography) different than the ones traditional to the printing trades. This will be a very interesting development to study in the next few years in the printing industry.

Four months before our survey, Printing 4 (N:264) introduced the use of perforated tapes on line casting machines. Two of eight linotype machines were converted to the new method. In the old method the linotype operator hyphenates and spaces each line. In the new procedure a teletype operator perforates tapes. The tapes cast lines automatically on the converted machines, thereby eliminating the need for the lino operator to make adjustments at the end of each line. 7/ In Printing 4, with a potential sample size of 351, 6 workers are teletype operators (producing the tapes), 3 monitor the converted machines, and 18 continue to work on the regular linotype machine. 8/

In the fifth printing firm (N:208) we used a two-pronged change issue. The first component consisted of the introduction of perforated tapes, a little over two years before our study. In addition to this, a few months prior to our arrival, a computer was installed which automatically hyphenates and spaces each line. This affects the teletype operator who no longer has to space each line. The linotype operator is not directly affected. In a potential sample of 342 there are 9 teletype and 8 monitor operators.

To sum up, we would classify all firms in the printing industry as involving non-change situations in that the changes were uniformly limited in their scope, affecting, however basically, only a small proportion (about 4%) of the people sampled.

6. Steel

One of the three major steel producing companies in Canada is the only firm representing the steel industry. In September 1967 a continuous casting department came into operation. Continuous casting converts molten steel directly into prefinished shapes. It eliminates the ingot stage in traditional steelmaking. Only a small number of workers were directly affected by the change (16 of 377 returns), so this too is a non-change situation. The elimination of the ingot stage would likely have an indirect effect on a number of workers, but continuous casting per se is a basic change for only a few individuals in our sample.

An overview of the sample indicates that we were able to study basic change issues in the Automobile, Oil, and, to a lesser extent, Chemical industries. Changes in the Steel and Printing samples were relatively insignificant. The ambiguous change at Electric 1 makes the classification of the Electrical Products industry difficult. We would tentatively locate it between Chemical and Steel.

On the basis of interviews with management, and whatever literature on the firms was available, we classified industries on the frequency of change experienced in the last twenty years or so. The result was roughly the same as that for the specific change—Automobile, Oil, Chemical and Electrical Products emerge as high on change, Steel inconclusive, and Printing low. We hasten to emphasize that this is a very loose classification. For example, one firm in our Chemical sample, representing about half the returns, was clearly low on frequency of change. One would need much fuller information and more refined methods to classify the industries rigorously.

To conclude, in most cases we failed to locate the types of change situations that we would have ideally liked to study. Major changes were scarce. However, we are able to rank the various industries on the basis of degree and frequency of technological change. With the large sample, we should be able to examine these variables fruitfully.

A preliminary look at the data reinforces our conclusion about frequency of change. We asked respondents how often they feel their companies have introduced changes in the past few years (E: 106). 9/

The rank order and percentages by industry for those saying "very often" or "quite often" is presented in Table 5.

Table 5

Proportions saying that their Company introduces changes "very often" or "quite often" by industry

Automobile	89.2%
Oil	81.3%
Electrical	76.6%
Steel	74.2%
Chemical	68.9%
Printing	<u>54.3%</u>
Total	73.4%

With Chemical the only exception, our objective ordering was identical to that perceived by respondents. On respondent's perception of the frequency of change in his firm, Automobiles is significantly the highest and Printing the lowest. One of the two Chemical plants—comprising 47% of the

achieved sample—was classified as low on change. It is likely that this is the main reason for that industry's low rank.

We now turn to the respondent's perceptions of the change events just described.

B. PERCEPTIONS OF CHANGE

For each plant included in the survey we inserted in the questionnaires an additional sheet of paper describing the specific change event which took place in his plant. The respondents were asked to keep this particular change event in mind when they answered a series of questions which followed. The questions dealt with three different aspects of the change event:

1. The respondent's perception of the radicalness of the change, his evaluation of the change as good or bad, and his perception of the difference the change made in his own work.
2. The respondent's evaluation of the impact of the change on his satisfaction with various aspects of his job.
3. The respondent's perception and evaluation of the way the change event was handled by the company in terms of advance notice and information and worker participation in the decisions to introduce the change.

1. Perception and Evaluation of Change

A close comparison of the worker's perception of the change with the objective change event as described would require separate analysis of the data for each firm. Unfortunately this was prohibitive in terms of time and funds. Because we analyzed the data by industry, a comparison of workers'

perceptions with objective information will have to be based on our ranking of the industries rather than the firms in terms of the radicalness of the change.

The following question was asked to determine the worker's perception of the radicalness of the change in terms of the number of people affected by it:

Q.128 In your opinion, how basic or important was the change as it affected the jobs of most of the workers in the firm?

It was a very basic change that greatly affected the jobs of most of the workers in the firm.

It was a medium change that affected the jobs of the workers somewhat, but not drastically.

It was a very small change that only slightly affected the jobs of most workers.

As can be seen in Table 6, only 17% of the total sample perceive the described changes as basic, greatly affecting the jobs of most workers in the plant ($V=.217$) 10/. Among the industries, the proportions perceiving a basic change range from 30% in Automobiles to only 5% in Printing. The order of perceived radicalness of the change is Automobiles, Chemicals, Oil, Steel, Electrical Products and Printing. With the exception of Chemicals, this reflects quite closely the order in which we would rank them objectively, although such ranking is admittedly very rough.

Respondents were next asked whether they consider the change, on the whole, as good, bad, or neither one way nor the other. Less than 5% see the given change as bad, while 65% think it was good and 30% indicate that they did not see it in either good or bad terms (Table 7). There is very little difference among the industries in the proportion saying it was a

TABLE 6

PERCEIVED RADICALNESS OF DESCRIBED CHANGE BY INDUSTRY
(in percentages)

INDUSTRY	Percentage saying the change was:			Total	No. of cases
	Very basic - greatly affected most workers	Medium - affected workers somewhat	Very small - affected workers slightly		
Automobiles	30.0%	53.2%	16.8%	100.0%	500
Chemicals	22.8	54.0	23.2	100.0	276
Electrical	12.7	52.9	34.4	100.0	424
Oil	19.6	47.9	32.5	100.0	526
Printing	4.7	41.9	53.4	100.0	602
Steel	14.6	54.8	30.6	100.0	369
TOTAL	16.8	49.8	33.4	100.0	
No. of Cases	452	1345	900		2697

No. of non-responses = 135

Cramer's V = .217

TABLE 7

EVALUATION OF THE DESCRIBED CHANGE BY INDUSTRY
(in percentages)

Percentage saying it was:

<u>INDUSTRY</u>	<u>A good thing</u>	<u>A bad thing</u>	<u>Neither one way nor the other</u>	<u>Total</u>	<u>No. of cases</u>
Automobiles	51.9%	6.3%	41.8%	100.0%	495
Chemicals	80.0	5.0	15.0	100.0	280
Electrical	62.0	5.3	32.7	100.0	431
Oil	66.0	5.9	28.1	100.0	527
Printing	61.9	2.6	35.5	100.0	614
Steel	77.3	3.2	19.5	100.0	370
TOTAL	64.8	4.7	30.5	100.0	
No. of cases	1762	127	828		2717

No. of non-responses = 115

Cramer's V = .142

bad thing. Automobiles had the highest proportion giving this response and Printing had the lowest (7% vs 2%, respectively). Automobiles also has much the lowest proportion of workers saying that the specific change is a good thing. Chemical workers and Printers are the most likely to say that it was a good thing.

In order to focus on the change as it affected the respondent himself, we asked the following question:

Q.131 Has the change made any difference in your work?

It has made no difference in my work

A little difference in my work

Some difference in my work

Quite a lot of difference in my work

It has made a great deal of difference in my work

The proportions giving the last two responses, saying the change made a lot or a great deal of difference in their own work, are closely comparable to those perceiving the general radicalness of the change as very basic, greatly affecting most workers (Table 8). In fact, the order among the industries is exactly the same.

This consistent tendency to perceive a change that affects oneself as also basic for others appears even more strongly when the two variables are cross tabulated (Table 9). The relationship obtained is strong ($V=.245$) and it remains at this level of strength when controls for age and education are introduced. Of those saying that the change made no difference in their own work, only 10% perceive it as a basic change greatly affecting most workers, whereas only 15% of those reporting that the change affected their own work a great deal perceive it as a small change. It is impossible to determine in which direction the perception mechanism operates, but it seems most

TABLE 8

RESPONSES BY INDUSTRY TO THE QUESTION: HAS THE
CHANGE MADE ANY DIFFERENCE IN YOUR WORK?
(in percentages)

Percentage saying it has made:

INDUSTRY	No dif- ference	A little difference	Some dif- ference	Quite a lot of difference	A great deal of difference	Total	No. of cases
Automobiles	29.0%	24.6%	21.6%	11.4%	13.4%	100.0%	500
Chemicals	49.9	14.7	14.7	13.3	7.4	100.0	285
Electrical	58.7	15.8	13.2	6.4	5.9	100.0	438
Oil	41.7	17.0	19.9	13.6	7.8	100.0	528
Printing	72.1	11.1	9.0	4.0	3.8	100.0	631
Steel	58.6	16.0	12.6	6.4	6.4	100.0	374
TOTAL	52.1	16.5	15.1	8.9	7.4	100.0	
No. of cases	1428	454	417	244	203		2756

No. of non-responses = 76

Cramer's V = .157

TABLE 2

PERCEPTION OF RADICALNESS OF CHANGE BY REPORTED
DIFFERENCE IT MADE IN RESPONDENT'S WORK
(in percentages)

THE CHANGE MADE:	Percentage indicating the change was:			No. of cases
	Very basic - greatly affected most workers	Medium - affected workers somewhat	Very small - affected workers slightly	
No difference	10.2%	44.8%	45.0%	1378
A little difference	14.0	58.1	27.9	451
Some difference	18.9	61.5	19.6	413
Quite a lot of difference	32.5	51.0	16.5	243
A great deal of difference	44.5	40.6	14.9	202
TOTAL	16.7	49.9	33.4	100.0
No. of cases	450	1339	898	2687

No. of non-responses = 145

Cramer's V = .245

plausible to expect that the extent to which a person's own job is affected will colour his perception of the radicalness of the change. But it should also be clear from Table 9 that there is no one to one relationship between the two reports.

2. Evaluation of Impact of Change on Job Satisfaction

In nine different questions we asked respondents to indicate whether the change had a positive or negative impact on their work situation and job satisfaction. From these we selected four and summed them to form an index of evaluation of change. The selected questions dealt with responsibility, general job satisfaction, management, and security.

The question on responsibility was intended to measure the impact on intrinsic job satisfaction, while that on security measures the impact on extrinsic job satisfaction. The question on satisfaction with management is an attempt to measure the impact on the worker's relation to management, while the one on general job satisfaction attempts to get a general measure of the overall impact of the change on the worker's job. Hence we included in the index various aspects of the respondent's work situation that could be affected by the change.

The question on general job satisfaction shows the format used:

Q.135 Are you in general more or less satisfied with your job than you were before as a result of the change?

More satisfied

Not affected or about the same

Less satisfied

The theoretical range of scores for the index is 4 to 12. We divided the range into three categories: Positive Impact (4 - 6), No Impact (7 - 8), and Negative Impact (9 - 12).

In the total sample, 14% score in the category "Positive Impact", 73% in the category "No Impact", and 13% in the category "Negative Impact" (Table 10). Among the industries, Chemicals has the largest proportion indicating a positive impact (17%) while Printing has the smallest (8%). Automobiles has the largest proportion reporting a negative impact (21%) while the other industries rank virtually about equal with the smallest proportion in this category (range from 9% to 13%).

If we deduct the proportions in the category "Negative Impact" from those in "Positive Impact" we derive an index of the "Net Impact" of the change. The "Net Impact" is positive for Chemicals, Steel and Oil, while it is negative for Electrical Products, Printing and Automobiles. Steel shows the largest positive net impact (+10%) and Automobiles the largest net negative impact (-6%). This order is very close to that obtained in the general evaluation of the change, showing again an impressive degree of consistency, although the general positive evaluation involves a majority in every industry.

Another index which can be derived from these scores is the "Total Impact" index, indicating the total proportion in each industry who report that they were affected by the change, regardless of the direction of the impact. The rank order of the industries, in terms of the size of the proportions under "Total Impact", is exactly the same as the order found in proportions saying it was a very basic change as well as in the proportions saying their own jobs have been affected quite a lot or a great deal by the change. One should not make too much of this similarity of rank order since the differences among the proportions are often small, but neither should it be denied that this consistency over six separate questions can be seen

TABLE 10

EVALUATION OF IMPACT OF CHANGE
ON JOB SATISFACTION BY INDUSTRY
(in percentages)

Percentage indicating:

INDUSTRY	Positive impact (4-6)	No impact (7-8)	Negative impact (9-12)	Total	No. of cases
Automobiles	15.7%	63.0%	21.3%	100.0%	503
Chemicals	16.9	71.7	11.4	100.0	290
Electrical	10.3	77.0	12.7	100.0	455
Oil	15.6	72.3	12.1	100.0	538
Printing	8.2	81.5	10.3	100.0	668
Steel	19.1	72.1	8.8	100.0	377
TOTAL	13.6	73.5	12.9	100.0	
No. of cases	386	2080	365		2831

No. of non-responses = 1

Cramer's V = .121

as evidence of the reliability of the questions. Furthermore, this order is essentially similar to our own ranking of the industries on the basis of objective evidence.

Additional evidence for the consistency is obtained in the very strong relationship found between the "Total Impact" index of change and the reported difference the change made in the respondent's work ($V = .293$). Of those who say the change made a great deal of difference in their work, 40% say it had a positive impact while a further 31% say it had a negative impact (Table 11). On the other hand, of those who say the change made no difference only 7% say it had a positive impact on their job satisfaction and only 6% say it had a negative impact.

In summary then, a little more than one-quarter of the total sample indicate that their job satisfaction has been affected by the described change event, with about half of these indicating that they are more satisfied and about half indicating they are less satisfied. But three-quarters of our respondents report that their job satisfaction was not affected by the change.

3. Adequacy of Information and Worker Participation

The insistence on advance notice and adequate information about technological changes which will affect workers has become a common feature of labour-management relations and collective agreements. We had considerable difficulty in finding precise objective evidence as to how much advance notice was given for the change events on which we focus in this study. We were not able to establish in each of the 17 cases how this aspect of the change had been handled. The reports of our respondents have to be treated,

TABLE 11

EVALUATION OF IMPACT OF CHANGE ON JOB SATISFACTION
BY REPORTED DIFFERENCE IT MADE IN RESPONDENT'S WORK
(in percentages)

Percentage indicating:

THE CHANGE MADE:	Percentage indicating:			Total	No. of cases
	Positive impact (4-6)	No impact (7-8)	Negative impact (9-12)		
No difference	6.6%	87.4%	6.0%	100.0%	1439
A little difference	14.3	72.3	13.4	100.0	454
Some difference	17.7	61.2	21.1	100.0	417
Quite a lot of difference	28.3	46.3	25.4	100.0	244
A great deal of difference	39.9	29.1	31.0	100.0	203
TOTAL	13.9	73.0	13.1	100.0	
No. of cases	384	2012	361		2757

No. of non-responses = 75

Cramer's V = .293

therefore, as perceptions with some unknown relation to objective reality. We cannot test their reliability against any objective standard.

In answer to the question: "How did you feel about the advance notice of the change?", 71% of the total sample indicate that they had received notice early enough, while 24% say they received no advance notice and another 5% say the notice was not early enough (Table 12). Among the industries, the proportions reporting no advance notice range from 34% in Electrical Products to 8% in Oil.

There is a clear relationship between this distribution and the perception of the radicalness of the change. In the three industries ranking lowest in proportions perceiving the described change as basic (Electrical Products, Printing and Steel), the proportions reporting no advance notice are highest, while the opposite is true for the other three. In other words, the less radical the described change the less likely it is that advance notice will be given. But this relationship is by no means clear cut. For example, although Oil ranks third in radicalness of change, it has the lowest proportion reporting no advance notice; and Automobiles, ranking first in perceived radicalness, has the highest proportion indicating no advance notice among the three ranking high on perceived radicalness. The reports on advance notice are, therefore, not simple reflections of the radicalness of the change.

Essentially the same pattern is discernible in the responses to questions about the adequacy of explanation of and information about the change (Tables 13 and 14). Oil and Chemicals show the lowest proportions indicating no explanation or information and Printing and Electrical Products show the highest proportions. The one exception is in the case of "explanation"

TABLE 12

RESPONSES BY INDUSTRY TO THE QUESTION: HOW DID
YOU FEEL ABOUT THE ADVANCE NOTICE OF THE CHANGE?
(in percentages)

Percentage saying:

INDUSTRY	No advance notice	Notice early enough	Notice not early enough	Total	No. of cases
Automobiles	22.5%	71.3%	6.2%	100.0%	503
Chemicals	17.9	75.9	6.2	100.0	290
Electrical	33.8	59.8	6.4	100.0	455
Oil	8.0	87.2	4.8	100.0	538
Printing	32.6	62.8	4.6	100.0	668
Steel	22.8	73.2	4.0	100.0	377
TOTAL	23.5	71.2	5.3	100.0	
No. of cases	666	2015	150		2831

No. of non-responses = 1

Cramer's V = .159

TABLE 13

REPORTED EXPLANATION OF CHANGE BY INDUSTRY
(in percentages)

<u>INDUSTRY</u>	<u>Percentage saying they received:</u>			<u>No. of cases</u>
	<u>Full explanation</u>	<u>Some explanation</u>	<u>Very little explanation</u>	
Automobiles	19.7%	37.6%	42.7%	503
Chemicals	29.0	52.7	18.3	290
Electrical	13.8	54.3	31.9	455
Oil	39.4	49.6	11.0	538
Printing	20.5	43.9	35.6	668
Steel	19.1	50.7	30.2	377
TOTAL	23.6	47.3	29.1	
No. of cases	667	1340	824	2831

No. of non-responses = 1

Cramer's V = .199

TABLE 14

RESPONSES BY INDUSTRY TO THE QUESTION: HOW
DID YOU FEEL ABOUT THE INFORMATION GIVEN TO
YOU ABOUT THE CHANGE BEFORE ITS INTRODUCTION?
(in percentages)

Percentage saying they received:

<u>INDUSTRY</u>	<u>No</u> <u>information</u>	<u>Not enough</u> <u>information</u>	<u>Enough</u> <u>information</u>	<u>Total</u>	<u>No. of</u> <u>cases</u>
Automobiles	21.5%	31.6%	46.9%	100.0%	503
Chemicals	20.0	24.5	55.5	100.0	290
Electrical	34.9	33.0	32.1	100.0	455
Oil	9.3	27.5	63.2	100.0	538
Printing	34.4	29.2	36.4	100.0	668
Steel	22.5	30.8	46.7	100.0	377
TOTAL	24.4	29.6	46.0	100.0	
No. of cases	690	839	1302		2831

No. of non-responses = 1

Cramer's V = .179

(Table 13) where Automobiles has the highest proportion reporting no explanation of the change. In interpreting the tendency of Automobiles to reflect lack of communication, it is necessary to point out that the data was gathered during a strike over wage-parity.

In order to get a more reliable index of satisfaction with information about change, we combined the questions on explanation, information and advance notice, recoded them so that they score in the same direction, and summed them to provide an index with a theoretical range from 3 to 9. We divided the score into three categories: Low Information (3-5), Medium Information (6), and High Information (7-9). These scores reflect the same order of differences among industries as described above, with only 10% of those in Oil scoring low on adequacy of information, followed by Chemical (21%), Steel, (27%), Automobiles (27%), Printing (36%) and Electrical (37%). In the total sample, 27% score low on adequacy of information, 9% score medium and 64% score high.

We will use this index in later chapters to examine the relation of the information variable to other aspects of the described change and attitudes to change in the total sample.

Another main aspect of the way in which change is handled is whether or not employees are involved in the decisions to introduce the change (Coch and French, 1948). We asked respondents "Did the workers affected by the change participate at all or have any influence in making decisions about the adoption of this change?" Of the total sample, only 15% say "yes" (Table 15). The individual industries fall into three groups on this question. In Printing and Oil, more than 20% say yes; in Steel and Electrical Products, 14% and 16%, respectively; in Chemicals and Automobiles, less than

TABLE 15

REPORTED PARTICIPATION OF WORKERS
IN DECISIONS TO INTRODUCE CHANGE
BY INDUSTRY

(in percentages)

<u>INDUSTRY</u>	<u>Percentage saying:</u>			<u>No. of cases</u>
	<u>Yes</u>	<u>No</u>	<u>Total</u>	
Automobiles	7.6%	92.4%	100.0%	484
Chemicals	9.0	91.0	100.0	268
Electrical	15.7	84.3	100.0	388
Oil	20.8	79.2	100.0	504
Printing	21.4	78.6	100.0	537
Steel	<u>13.9</u>	<u>86.1</u>	<u>100.0</u>	<u>338</u>
TOTAL	15.4	84.6	100.0	
No. of cases	389	2130		2519

No. of non-responses = 313

Cramer's V = .151

10% say yes. These answers do not follow any of the patterns we have found so far. But they do follow a pattern suggesting that they are closely related to the atmosphere of labour-management relations. Printing and Oil, with the highest proportions, are the two industries with non-unionized firms in the sample. On the other hand, as we shall see later, Electrical Products and Automobiles were characterized by somewhat strained relationships at the time of data gathering.

C. CONTROL VARIABLES

At this time it is appropriate to describe the relation of three factors, which we use as controls—age, education, and atmosphere of labour-management relations—to the set of attitudinal change variables just described. Throughout the study we controlled for these factors on all major relationships.

Age and education are obvious standard variables likely related to industrial change, and therefore, should be held constant. Atmosphere of labour-management relations is an important variable to take into account in the examination of factors determining attitudes and responses to industrial change. It should be a particularly important aspect of attitudes toward specific changes experienced in the plant.

1. Age

As a control variable, age was dichotomized into those under 40 years of age, and those 40 and over. Age is not strongly related to perceived radicalness of the change. Those over 40 are slightly more likely to perceive the change as basic ($V=.077$).

Similarly, the relationship between age and impact of the change on job satisfaction is weak ($V=.045$) with the younger group a little more dissatisfied with the change and the older workers more likely to say they were not affected.

Age makes only a slight impact on the distribution of scores on the index of information about the change ($V=.084$). The younger are slightly less satisfied with the information they received about the change.

Although age does not have a great effect on these variables, it is interesting to note that the older workers are more likely to consider the change basic, and the younger respondents more likely to be dissatisfied with the change and the manner in which it was handled.

2. Education

We dichotomized education into those who had some high school education or less and those who had completed high school education or more. There is no relationship to perceived radicalness of change, nor to the adequacy of advance notice as measured by our three-item scale. There is an association between education and the scale measuring the impact of change in terms of responsibility, general job satisfaction, satisfaction with management and security ($V=.089$). The more educated are more likely to see the change as increasing these aspects (19% as compared to 12% for the less education).

3. Atmosphere

We asked respondents whether they thought that labour-management relations in their firm are mainly marked by "conflict" or "co-operation". Since "atmosphere" is plant specific we expected fairly strong relationships with respondents' attitudes to the actual change events in their firm.

Those who perceive the atmosphere to be characterized by conflict are more likely than those who perceive an atmosphere of co-operation to say that it was a very basic change affecting most of the workers in the firm ($V=.105$).

Perceived atmosphere of labour relations is more strongly related to the impact of the change on job satisfaction. Those who report an atmosphere of conflict are less likely to report a positive impact and more likely to report a negative impact than those who see the atmosphere as characterized by co-operation ($V=.185$).

The respondent's perception of how that change was handled is also fairly strongly associated with atmosphere. Those who report an atmosphere of conflict are more likely to say that workers received no or not enough information and advance notice about the change ($V=.191$). Among respondents in a perceived conflict atmosphere, 37% score low on adequacy of information as compared to only 22% of those who perceive co-operation. On the other side, 71% of those reporting co-operation score high as compared to 51% of those who report conflict.

With respect to the other aspect of how the change was handled, "conflict" respondents are more likely to say that workers did not participate in the decisions about the change ($V=.134$).

One can conclude, then, that reported atmosphere of labour-management relations plays a much greater role than does age or education in relation to perceptions of specific industrial changes. The causal direction, of course, cannot be ascertained. It is not clear whether atmosphere of labour-management relations colours workers' perceptions and evaluations of specific

changes or whether the change events affect workers' perceptions of the labour-management atmosphere. Whatever the case, we will be considering the role of atmosphere much more fully in terms of its effects on the variables to be analyzed in subsequent chapters.

D. FREQUENCY OF CHANGE AND PERCEPTIONS OF SPECIFIC CHANGE

In the rest of this chapter we want first to consider the worker's perception of the frequency of change in his company in relation to his perception and evaluation of the specific change event. Secondly, we would like to examine more closely the relationships among the variables measuring perceptions and evaluations of the specific change.

1. Frequency of Change

The frequency with which change takes place in the worker's job situation is another important variable which should affect his orientation to change. Some authors (Blauner, 1964) indicate that frequent change can breed an atmosphere favourable to the acceptance of further change. On the other hand, a drastic change in work organization that proved to increase dissatisfaction is unlikely to contribute to the acceptance of another change soon after. Moreover, change could be so frequent that it prevents the routinization of work to a level where workers can relate meaningfully to their tasks. In order to sort out the possible influence of frequency of past change in the company, we examined the relationship of this factor to the perceptions and evaluations of the specific changes.

First, it should be noted that perceived frequency of change relates fairly strongly to atmosphere of labour-management relations with those who

perceive conflict slightly more likely to report frequent changes, as one could perhaps expect ($V=.130$). Perceived frequency of change in company relates fairly strongly to the perceived radicalness of the change event, the reported difference it made in the worker's own situation and the evaluation of its impact on job satisfaction ($V=.144$, $V=.132$ and $V=.102$, respectively). The relationships are all in the same direction: those who say that their company introduces change frequently are more likely to say the specific change was basic, that it made "a great deal of difference" in their work and that it had a negative impact on their job satisfaction. This kind of "halo" effect of change is somewhat unexpected since one would expect that the more frequent the change the more workers would be accustomed to it and would take it "in their stride". Controls for age, education and atmosphere do not affect these relationships.

2. Perceptions and Evaluation of Specific Change

Adequacy of information is moderately related to perceived radicalness of change ($V=.104$) with those who score low on this variable being somewhat more likely to say that it was a small change. It is also mildly related to the reported difference the change made in the respondent's own work ($V=.094$), with those who say the change made a great difference in their work more likely to score high on adequacy of information than those who say it made no difference and less likely to score low. These relationships are not affected by controls for age, education and atmosphere.

The relationship of adequacy of information to evaluation of the impact of the change on job satisfaction is somewhat stronger than the previous two ($V=.134$). Those who score in the category "Positive Impact" are

more likely than those who score "Negative Impact" to come out high on adequacy of information. Of those in the category "Positive Impact", 11% score low on adequacy of information and 81% score high, while 41% of those in "Negative Impact" score low and 47% score high. The relationship is not affected by the controls.

Worker participation is moderately related to adequacy of information with those who answer "yes" to the participation question more likely to score high on adequacy of information than those who say "no" ($V=.125$). Of those who say "yes", 78% score high as compared to 61% of those who say "no". This relationship is not affected by controls for age and education but it is affected by the control for atmosphere of labour-management relations. Among those who perceive an atmosphere of conflict it is strengthened ($V=.138$), but among those who report co-operation it is weakened ($V=.081$). This effect seems to derive from the tendency for those who answer "no" to the question on participation to be influenced by the atmosphere in reporting on the adequacy of information. Among those who say "no" and perceive an atmosphere of conflict, 39% score low on adequacy of information while only 24% of those who say "no" and report co-operation score low.

Report on participation is also weakly related to evaluation of the impact of the change on the workers' job satisfaction ($V=.099$). Those who say workers did participate are more likely to have a "Positive Impact" score and less likely to have a "Negative Impact" score than those who say workers did not. Of those who say workers did participate, 21% have a "Positive Impact" score as compared to 13% of those who say they did not, while only 8% of the former have a "Negative Impact" score as compared to 15% of the latter. When we introduce controls for age, education and

atmosphere, the relationship becomes even weaker for people over 40 years of age, those with high school or more education, and those who perceive an atmosphere of co-operation. The relationship is slightly strengthened for the opposite categories of these variables. For example, among those who perceive an atmosphere of co-operation, the differences in scores of those who report participation and those who do not are reduced ($V=.062$). But among those who report an atmosphere of conflict, the differences become slightly more pronounced ($V=.105$).

These findings seem to indicate that when an atmosphere of conflict is perceived it colours the perception of everything having to do with the labour-management relations, such as worker participation in decisions about change.

In this chapter we have described in detail the workers' perceptions, evaluations, and reactions to actual change events in their companies. In subsequent chapters we move on to consider the relationships of a whole range of factors to the workers' perceptions of the specific changes. In Chapter III we examine respondents' attitudes to change in terms of general orientations or dispositions to change, as these relate to their attitudes to specified consequences of change.

REFERENCES

- 1/ A future step, of course, is to analyze the change firms separately.
- 2/ As mentioned in Chapter I, a description of the change event for each company was inserted in the appropriate questionnaires. A sample of the change described for Oil 1 is reprinted in Appendix C. Each insert description followed the same format.
- 3/ We adopt the convention of referring to Automobile 1, Automobile 2, Chemical 1, Chemical 2, etc., to distinguish the different plants within each industry.
- 4/ Unless otherwise indicated, the number in brackets refers to the achieved sample.
- 5/ The old plant was not disassembled, but stands inoperative a few hundred yards from the brand new, more automated plant, providing an interesting juxtaposition.
- 6/ See S. M. Lipset, M. Trow and J. Coleman (1956). This was confirmed in our own interview with a local International Typographical Union official, Toronto, January 1968.
- 7/ The operator, in fact, just monitors the machine.
- 8/ The change to perforated tapes may have an important symbolic effect on those linotype operators whose machines were not converted.
- 9/ The numbering of questions in this study are the actual numbers for the items as they appear in the questionnaire (see Appendix B).
- 10/ For a more complete explanation of the meaning of the measures of association given in brackets for each relationship, see Note on Statistics, Appendix A.

CHAPTER III

ATTITUDES TO CHANGE

One of the major challenges of this study was to develop reliable measures of attitudes to change. This would enable us not only to assess the relevance of attitudes to actual change events in industry, but also to measure the impact of technological change on such attitudes.

We attack this problem by mapping out three different dimensions of attitudes to change. The first level concerned the respondents' perceptions and evaluations of actual changes that had been introduced in their work situations. This aspect of change was thoroughly described in the previous chapter. A second dimension that we refer to as general orientations to change consists of statements of opinion or attitude evaluating three different general aspects of change. These will be described below. The final dimension consists of questions asking the respondent to indicate what he most likely would do if certain specified hypothetical consequences of technological change affected him personally. There are some interesting aspects of this dimension of change which we will discuss below.

It is obvious, then, that we consider attitudes toward industrial change to be a multidimensional phenomenon which can be studied in a number of different ways. The advantage of studying specific changes is that the

researcher can describe known changes to the respondent who has a concrete referent on which to base his reply. However, one can appreciate from our discussion in the last chapter that it is virtually impossible to select comparable specific changes in a number of different firms. For various reasons one may find at any given time fairly basic changes to study in one firm, and insignificant ones in another.

In light of the problems of locating comparable specific changes, we felt that it was necessary to include measures that would represent a more standard or uniform referent of the phenomenon of industrial change. For this reason we included the two more general dimensions of general orientations to change, and orientations to hypothetical changes.

It is important to emphasize that evaluations of the actual changes, general orientations, and orientations to hypothetical consequences of change are considered to be independent dimensions, although we do propose that they are interrelated in that the general orientations and the orientations to hypothetical consequences should have some bearing on how an individual will react to actual changes in the work situation.

In this chapter we will be examining these interrelations among the different measures of change. In the following chapters we take into account a series of work factors as they relate to attitudes toward the specific changes and the hypothetical consequences. We will not include the general orientations in these later chapters because they do not directly relate to work factors. However, we do predict that these general orientations are related to readiness to accept hypothetical consequences and to evaluation of the specific changes. Before examining these relationships, it is necessary to describe more fully our measures of general orientations, and orientations to hypothetical consequences of change.

A. GENERAL SCALES OF ATTITUDES TO CHANGE

As we have indicated above, the workers' attitudes to change in general could be expected to influence their behavior in change situations. We have used three scales to measure these attitudes on three different levels: attitudes to change specific to the job of the worker, attitudes to technical change and automation, and attitudes to social change in general. Questions designed to measure each of these aspects were included in a factor analysis of a total of 48 attitudinal items. Twelve principal component factors were extracted and rotated orthogonally according to the varimax criterion. Three of these factors were clearly identifiable as the job change, technical change and general social change dimensions indicating that they were independent entities. These scales are described in turn.

1. The Job Change Scale

Trumbo (1961) and Hardin (1967) have developed and used a job specific change scale which promises to relate to readiness to accept change. We incorporated a six item scale based on their work in our questionnaire. The items express various degrees of preference for a job which changes often or remains the same over long periods.

The six job change items had high factor loadings on a single factor indicating that they were items from the same domain. The wording of the actual items and their factor loadings follow:

		<u>Factor Loading</u>
C - 13	I like a job where I know that I will be doing my work about the same from one week to the next	.63
C - 34	I would prefer to stay with a job I know I can handle than to change to one where most things would be new to me	.60
C - 55	The trouble with most jobs is you just get used to doing things in one way and then they want you to do them differently	.40
C - 101	One can never feel at ease on a job when the ways of doing things are always being changed	.53
C - 139	When I get used to doing things in one way, it is disturbing to have to change to a new method.	.65
C - 79	Ideal job changes a great deal	.63

Respondents were given five categories of response:

Strongly agree
Agree
Undecided
Disagree
Strongly disagree

Low scores indicate agreement with the items and reflect a preference for job stability rather than change. The range of possible scores on this scale is 6 to 30, with high scores indicating attitudes favourable to job specific change. We divided the scores into three categories: Low (6-16), Medium (17-21) and High (22-30).

The main expectation in the analysis below is that people who prefer a job which changes very little would be inclined to perceive specific changes unfavourably to the extent that it would require some changes in their job.

Since this scale measures a set of general attitudes to the job situation, we would not expect to find substantial differences among the six industries. It is unlikely that these attitudes will be shaped directly by the work situation in the industry itself, although people with certain orientations may be more likely to work in one industry than another. Of the three scales of general attitudes, we would expect job change to be most closely related to the work situation within the industry since the content of the scale is specific to jobs. Although it does not refer to the respondent's present job, it is likely that the type of job he considers ideal would be coloured by his experiences on his own job.

In our total sample, 26% score low on the Job Change Scale, 39% score medium, and 35% score high (Table 16). Among the industries there are not large differences ($V=.078$). Oil (38%), Electrical (38%) and Printing (37%) have the largest proportions scoring high on this scale. Automobiles (29%), Steel (30%) and Chemicals (33%) have the lowest. When we compare the proportions scoring high with those scoring low, it is interesting to note that Automobiles is the only industry with a higher proportion scoring low than high. Steel is the only other industry that has a high relative proportion scoring low.

2. The Technological Change Scale

The second level at which we try to measure general attitudes to change is that of evaluation of technical change or automation. Here the reference is to the technological system with no reference to the content of jobs as such. The factor analysis uncovered a five item scale with two items reflecting a negative evaluation and three a positive evaluation of technical change. The following items (with factor loadings noted) constitute the scale:

TABLE 16

JOB SPECIFIC CHANGE SCALE SCORES BY INDUSTRY
(in percentages)

<u>INDUSTRY</u>	<u>Percentage scoring:</u>			<u>Total</u>	<u>No. of cases</u>
	<u>High</u> (<u>5-11</u>)	<u>Medium</u> (<u>12-17</u>)	<u>Low</u> (<u>18-25</u>)		
Automobiles	29.2%	36.6%	34.2%	100.0%	503
Chemicals	33.1	41.7	25.2	100.0	290
Electrical	37.5	37.4	25.1	100.0	455
Oil	38.3	37.4	24.3	100.0	536
Printing	36.8	41.5	21.7	100.0	668
Steel	<u>29.7</u>	<u>41.4</u>	<u>28.9</u>	<u>100.0</u>	<u>377</u>
TOTAL	34.5	39.2	26.3	100.0	
No. of cases	576	1109	744		2851

No. of non-responses = 1

Cramer's V = .078

		<u>Factor Loading</u>
C - 5	Even though technical change and automation is bound to happen, it doesn't mean that it is usually a good thing	.46
C - 39	It is necessary for management to make technical changes continually even though this is not always in the workers' interest	.45
C - 77	In spite of what many people say, technical change and automation is really a very good thing	.70
C - 105	Technical change and automation are happening too rapidly these days	.54
C - 124	Technical change and automation is a good thing on the whole, even though it often interferes with the interests of workers	.67

The categories of response provided were the same as for the previous scale, ranging from "strongly agree" to "strongly disagree". Theoretically scores could range from 5 to 25, with low scores indicating attitudes favourable to technical change. We divided this scale into three categories: High (5-12), Medium (13-15), Low (16-25).

We expected that respondents scoring high on the Technological Change Scale would be more likely to be receptive to change in industry than those scoring low. Here again we did not expect to find great variations among the industries since the content of this scale would not be related to the work situation except in so far as technological change might have affected it. It was considered less likely for this scale than for the Job Change Scale that proportions scoring high or low on the scale would vary markedly with industry.

In the total sample 51% score high, 33% medium and 16% low on this scale (Table 17). Among the industries the proportions scoring high range from 54% in Printing to 46% in Automobiles, a range of 8%. The differences are, therefore, negligible ($V=.062$). The proportions scoring low also show small differences.

3. The General Change Scale

The most general level on which we attempt to measure attitudes to change is that of society at large. The four items in this scale, which were derived from the factor analysis, have no specific job content, nor do they refer to technological change or automation as such. In constructing this scale, we built on the work of Neal (1965) who found that general orientations to change or non-change predicted fairly well to decisions with respect to specific change issues. We expect, therefore, that respondents scoring high on the General Change Scale will more likely be receptive to change than those who score low. The following items make up the scale:

		<u>Factor Loading</u>
C - 18	As it is, the society is in pretty good shape; efforts to change it will just make things worse	.60
C - 53	The world as it is, is a pretty good place. We really don't need all this concern about change	.64
C - 70	Permanence and stability, not change are what we should aim for in society	.52
C - 81	If you start trying to change things very much you usually make them worse	.36

The categories of response were the same as for the other two scales. The theoretical range of scores is 4 to 20 with low scores indicating a

TABLE 17

TECHNOLOGICAL CHANGE SCALE SCORES BY INDUSTRY
(in percentages)

Percentage scoring:

<u>INDUSTRY</u>	<u>High</u> <u>(6-14)</u>	<u>Medium</u> <u>(15-18)</u>	<u>Low</u> <u>(19-30)</u>	<u>Total</u>	<u>No. of</u> <u>cases</u>
Automobiles	46.5%	32.6%	20.9%	100.0%	503
Chemicals	52.1	33.8	14.1	100.0	290
Electrical	50.3	30.1	19.6	100.0	455
Oil	49.8	35.3	14.9	100.0	178
Printing	53.9	33.5	12.6	100.0	668
Steel	50.9	32.4	16.7	100.0	377
TOTAL	<u>50.7</u>	<u>33.0</u>	<u>16.3</u>	<u>100.0</u>	
No. of cases	1434	935	462		2831

No. of non-responses = 1

Cramer's V = .062

"low" change orientation. We divided this scale into three categories: Low (4-12), Medium (13-15), High (16-20).

We expected that this scale, being the highest of the three in level of generality, would be least related to specific industries. Its content does not reflect anything that would necessarily be more associated with one industry than with another. In the total sample 30% score low, 37% score medium and 33% score high (Table 18). Among the industries Printing has the highest proportion of high scores on this scale too (36%) while Chemicals with 28% has the lowest proportion. Thus there is very little variance among industries on this general scale too ($V=.047$).

In sum, the differences among the industries on the three general change scales are fairly small, but the consistency with which Automobiles was the lowest on change orientation from one scale to another is impressive.

In concluding this section we may note that there is a strong relationship between the General Change and Job Change Scales ($V=.274$) and a moderate relationship between the General Change and Technological Change Scales ($V=.138$) (Tables 19 and 20).

B. MEASURES OF READINESS TO ACCEPT THE CONSEQUENCES OF TECHNOLOGICAL CHANGE

On this dimension of change we considered it important to obtain measurements of workers' reactions to the automation of their jobs, to re-training, to dislocation, to relocation, and to loss of satisfaction on the job. To this end we constructed hypothetical questions asking the respondent what he most likely would do in the event of being personally affected

TABLE 18

GENERAL CHANGE SCALE SCORES BY INDUSTRY
(in percentages)

<u>INDUSTRY</u>	<u>Percentage scoring:</u>			<u>Total</u>	<u>No. of cases</u>
	<u>High</u> (<u>6-13</u>)	<u>Medium</u> (<u>14-16</u>)	<u>Low</u> (<u>17-30</u>)		
Automobiles	31.0%	35.6%	32.6%	100.0%	503
Chemicals	27.6	42.1	30.3	100.0	290
Electrical	32.5	38.7	28.8	100.0	455
Oil	34.0	37.0	29.0	100.0	538
Printing	35.5	36.5	28.0	100.0	668
Steel	31.8	34.2	34.0	100.0	377
TOTAL	32.7	37.1	30.2	100.0	
No. of cases	928	1049	854		2831

No. of non-responses = 1

Cramer's V = .047

TABLE 19

JOB SPECIFIC CHANGE SCALE SCORE BY
GENERAL CHANGE SCALE SCORE
(in percentages)

GENERAL CHANGE	Job Specific Change Percentage scoring:			Total	No. of cases
	High (5-11)	Medium (12-17)	Low (18-25)		
High (6-13)	53.8%	34.8%	11.4%	100.0%	928
Medium (14-16)	32.0	45.1	22.3	100.0	1049
Low (17-20)	16.1	36.0	47.3	100.0	355
TOTAL	34.5	59.2	20.5	100.0	
No. of cases	973	1110	744		2652

No. of non-responses = 0

Cramer's V = .274

TABLE 20

TECHNOLOGICAL CHANGE SCALE SCORE BY
GENERAL CHANGE SCALE SCORE
(in percentages)

GENERAL CHANGE	Technological Change Percentage Scoring:			Total	No. of cases
	High (6-14)	Medium (15-18)	Low (19-30)		
High (6-13)	63.1%	24.9%	12.0%	100.0%	928
Medium (14-16)	49.3	34.5	16.2	100.0	1049
Low (17-30)	38.7	40.1	21.2	100.0	855
TOTAL	50.6	33.1	16.3	100.0	
No. of cases	1434	936	462		2832

Cramer's V = .138

No. of non-responses = 0

in each of these areas. These hypothetical questions have to serve as substitutes, poor as they may be, for actual reactions to real events. The serious study of real situations of this sort was beyond the scope of this project. Since there does not seem to be any obvious advantage to the respondent in systematically biasing his responses in one way or the other, these questions should provide fairly reliable indicators of probable behavior in real situations. Real situations are, of course, always more complex than the pre-coded alternatives in these questions would suggest, but there is no attempt to deny this complexity or to suggest that the present approach comes close to coping with it. Given the limitations of the project, we considered this the most promising alternative.

The following questions were used to assess the respondent's readiness to accept the consequences of technological changes affecting him personally.

1. Preference for Automation

Q.144 If it would not make any difference in the pay and security of your job, would you like to see your job become more highly automated?

I would like it very much
It doesn't matter much one way or the other
I would dislike it very much

The responses for the different industries are given in Table 21. There are few substantial differences in the proportions indicating a preference for automation among the industries. The proportions saying "I would like it very much" range from 43% in Printing to 29% in Electrical Products. Electrical Products also has the highest proportion saying they would dislike it very much (22%). Automobiles has the second lowest proportion saying they would like it very much (30%). On the other side, Chemicals with

TABLE 21

PREFERENCE FOR AUTOMATION BY INDUSTRY
(in percentages)

Percentage saying:

<u>INDUSTRY</u>	<u>Would like it very much</u>	<u>It doesn't matter</u>	<u>Would dis- like it very much</u>	<u>Total</u>	<u>No. of cases</u>
Automobiles	30.2%	55.4%	14.4%	100.0%	486
Chemicals	42.1	47.1	10.8	100.0	278
Electrical	29.1	48.5	22.4	100.0	429
Oil	37.5	50.6	11.9	100.0	522
Printing	43.4	42.9	13.7	100.0	633
Steel	39.3	48.1	12.6	100.0	364
TOTAL	37.0	48.6	14.4	100.0	
No. of cases	1003	1318	391		2712

No. of non-responses = 120

Cramer's V = .103

the second largest proportion indicating they would like automation very much (42%) and the lowest percentage indicating dislike (11%), is, on balance, as favourably disposed to automation as Printing. Oil and Steel fall in between, but closer to Chemicals and Printing than to Electrical Products and Automobiles.

2. Readiness to Retrain

Q.145 If some change in your work required you to learn new skills through retraining, which one of the following would you do?

Take a course at night at your own expense learning the new skills.

Take a course only if management would pay part or all of the cost.

Prefer not to retrain even if you have to look for another job.

In the total sample 48% choose the first alternative indicating they would be prepared to retrain at their own expense (Table 22). In the various industries responses range from 64% in Printing indicating willingness to retrain at their own expense to only 35% in Oil choosing this response, with Steel (36%) and Automobiles (43%) also showing low proportions choosing this response. The fact that only 3% in the total sample and less than 4% in any of the industries say that they would prefer not to retrain indicates that the main consideration seems to be the cost of retraining.

3. Readiness to Accept Dislocation

Q.146 If some change in your work meant that you would lose your job, which one of the following would you do?

Accept this as a fact of life and look for another job.
Complain to management and the union.
Participate in a strike against the Company.
Quit the job for another.

TABLE 22

READINESS TO UNDERTAKE RETRAINING BY INDUSTRY
(in percentages)

Percentage saying they would:

<u>INDUSTRY</u>	<u>Take a course at own expense</u>	<u>Take a course if management pays cost</u>	<u>Prefer not to retrain</u>	<u>Total</u>	<u>No. of cases</u>
Automobiles	43.0%	54.1%	2.9%	100.0%	490
Chemicals	52.3	45.2	2.5	100.0	277
Electrical	50.2	47.0	2.8	100.0	436
Oil	34.6	62.9	2.5	100.0	517
Printing	64.4	32.0	3.6	100.0	644
Steel	36.0	60.7	3.3	100.0	367
TOTAL	47.6	49.4	3.0	100.0	
No. of cases	1301	1349	81		2731

No. of non-responses = 101

Cramer's V = .163

In the total sample 52% indicate they would "Accept this as a fact of life and look for another job" (Table 23). In the various industries response rates for this alternative range from a high of 64% in Printing to a low of 41% in Steel. Chemicals (58%) and Electrical Products (54%) rank close to Printing, while Automobiles (46%) and Oil (48%) are closer to Steel. Another 36% of the total sample say they would complain to the union and management while a very small proportion think they would participate in a strike against the company for this reason (3%). Less than 10% in the total sample indicate that they would quit their jobs for this reason and among the industries taken separately, it is only in Oil and Printing where slightly larger proportions choose this response (13% and 11% respectively).

4. Readiness to Accept Relocation

Q.147 If some change in your work required you to relocate or transfer to another plant in your firm, which one of the following would you do?

Transfer to other plant.

Complain to management but probably accept the transfer.

Complain to the union and, if necessary, participate in a strike against the Company.

Not transfer even if it meant I would lose my job.

On this item 58% of the total sample say they would transfer and another 30% indicate they would complain, but probably accept the transfer (Table 24). Among the individual industries, Printing again has the highest proportion indicating acceptance of relocation (71%) while Electrical Products has the lowest (48%). Electrical Products reflects a consistent tendency to resist this type of consequence of change with 7%, as compared to 4% in the total sample indicating they would complain to the union and, if necessary, participate in a strike against the company and a further 15% as compared to only 8% in the total sample, indicating they would not

TABLE 25

READINESS TO ACCEPT DISLOCATION AS A
RESULT OF CHANGE BY INDUSTRY
(in percentages)

Percentage saying they would:

INDUSTRY	Accept it and look for an- other job	Complain to management and the union	Participate in a strike against company	Quit the job for another	Total	No. of cases
Automobiles	46.0%	42.2%	5.9%	5.9%	100.0%	494
Chemicals	51.7	32.9	2.5	6.9	100.0	277
Electrical	53.9	36.5	2.7	7.1	100.0	438
Oil	47.5	38.1	1.6	12.8	100.0	515
Printing	65.5	25.6	1.6	11.3	100.0	639
Steel	40.8	48.8	3.3	7.1	100.0	365
TOTAL	52.1	36.1	2.9	8.9	100.0	
No. of cases	1423	984	78	243		2728

No. of non-responses = 104

Cramer's V = .125

TABLE 24

READINESS TO RELOCATE AS A RESULT OF CHANGE BY INDUSTRY
(in percentages)

Percentage saying they would:

<u>INDUSTRY</u>	<u>Transfer to the other plant</u>	<u>Complain but probably accept transfer</u>	<u>Complain to union and participate in a strike</u>	<u>Not transfer even if they lose job</u>	<u>Total</u>	<u>No. of cases</u>
Automobiles	55.0%	30.2%	5.5%	9.5%	100.0%	494
Chemicals	58.7	33.5	2.8	5.0	100.0	261
Electrical	47.7	30.5	7.3	14.5	100.0	440
Oil	56.9	34.6	1.2	7.3	100.0	520
Printing	70.6	21.9	1.1	6.2	100.0	543
Steel	52.7	36.7	6.3	4.3	100.0	368
TOTAL	58.0	30.3	3.7	8.0	100.0	
No. of cases	1952	635	102	219		2740

No. of non-responses = 86

Cramer's V = .129

transfer, even if it meant losing their jobs. On the whole, however, there seems to be a general readiness in all industries included to accept transfer or relocation as a result of change with more than 88% of the total sample choosing the first two responses.

5. Readiness to Accept the Personal Costs of Change

The other questions deal with consequences of change for the worker's satisfaction with his job. We included three components of intrinsic job satisfaction—degree of interest of work, control over pace and quality, and responsibility—and three components of extrinsic job satisfaction—security, contact with other workers, and pay—as well as one on general job satisfaction. All seven questions had the same format as the following one on security:

Q.148 If some change in your work meant that you would have much less security in your job, which one of the following would you do?

- Stay on the job, and adjust as well as you can.
- Stay on the job, but complain to management and union.
- Stay on the job, but start looking for another job.
- Take part in a strike against the company.
- Quit the job for another.

The categories of response were constructed to provide different levels of readiness to accept the consequences for job satisfaction, with the first being most ready and the last least ready.

We used five of these questions, those dealing with security, interest, control, pay, and general job satisfaction, to develop a scale of readiness to accept the personal cost of change, by summing the scores on the five items and dividing them into four categories. Theoretically the scores range from 5 to 25. The following categories were created:

Most ready to accept cost: scores from 5 - 7

More ready to accept cost: scores from 8 - 10

Less ready to accept cost: scores from 11 - 14

Least ready to accept cost: scores from 15 - 25

Table 25 presents the distribution of responses for the total sample by industry. In the sample as a whole the percentages scoring in the four categories from most ready to least ready are 15%, 29%, 35% and 21%. Among the industries, the proportions scoring most ready to accept the personal costs of change range from 22% in Chemicals to 9% in Electrical Products. Oil has the second largest proportion of scores in this category, while no substantial differences appear among the other three industries, all having scores close to the average. When one combines the "more ready" category with the "most ready", the proportion of scores in Electrical Products remains the lowest (33%) with Printing the second lowest (36%). For the other four, the proportions range between 46% for Steel to 53% each for Chemicals and Oil. When we examine the other extreme, the "least ready" category, Electrical Products and Printing again emerge consistently with the highest proportions in this category (27% each) while no substantial differences appear among the other four.

It will not be possible to interpret these differences fully before we have examined the whole range of variables covered in this study. Suffice it to note at this point that the picture in Electrical Products is fairly consistent, showing a fair amount of resistance to the consequences of change in three out of five measures—in preference for automation, readiness to retrain, and readiness to accept the personal cost of change. Printing, on the other hand, shows the greatest acceptance of change on four out of five

TABLE 25

READINESS TO ACCEPT PERSONAL COST OF CHANGE BY INDUSTRY
(in percentages)

<u>INDUSTRY</u>	Percentage scoring:				<u>Total</u>	<u>No. of cases</u>
	<u>Most ready (5-7)</u>	<u>More ready (8-10)</u>	<u>Less ready (11-14)</u>	<u>Least ready (15-25)</u>		
Automobiles	13.5%	36.4%	35.4%	14.7%	100.0%	503
Chemicals	22.1	30.7	30.3	16.9	100.0	290
Electrical	8.8	24.0	40.2	27.0	100.0	455
Oil	21.2	32.0	30.3	16.5	100.0	538
Printing	12.4	23.2	37.9	26.5	100.0	668
Steel	16.7	29.2	34.7	19.4	100.0	377
TOTAL	15.3	28.9	35.1	20.7	100.0	
No. of cases	432	818	996	585		2831

No. of non-responses = 1

Cramer's V = .112

measures—in preference for automation, readiness to undertake retraining, readiness to accept dislocation, and readiness to relocate. We will return to these differences later.

These variables, then, constitute another set of dependent variables in addition to those described in the previous chapter. In this and subsequent chapters we will consider in turn a whole range of factors which we expect to affect these variables, to influence in a positive or negative direction the worker's readiness to accept the costs of the consequences of change for himself, in terms of retraining, relocation, dislocation and job satisfaction.

In the rest of this chapter we want to examine three sets of relationships. First, we relate the two sets of variables discussed in this chapter—general change orientations and readiness to accept specified consequences of change. Second, we consider the three general change orientations as they relate to perceptions and evaluations of the actual changes described in the previous chapter. Finally, we investigate how readiness to accept specified consequences of change relates to perceptions and evaluations of the actual changes.

With regard to the last two sets of relationships, we expect that the worker's general orientations and more specific attitudes to change will influence the perceptions and evaluations of the actual change in the obvious direction: those who are more favourably oriented to change and its consequences will be more likely to react positively to the actual change event. Before we turn to these relationships we have to consider the role of our control variables, age, education and atmosphere of labour-management relations.

C. CONTROL VARIABLES

These general change orientation scales and indicators of readiness to accept specified consequences of change were found to relate rather weakly in some cases to the three control variables discussed in the previous chapter. Nevertheless, we want to examine all the relationships here in order to determine their strength and direction for the purpose of later control.

1. Age

The relationship between age and the three change scales varies. For the Job Change Scale it is fairly strong ($V = .181$), for the General Change Scale it is weaker but still fairly strong ($V = .117$), while for the Technological Change Scale it is quite weak ($V = .049$). On Job Change, 44% of the respondents under 40 years of age indicate a desire for jobs that change frequently compared with 28% of those over 40. Similarly only 20% of the young, compared to 31% of the old, score at the lower end of the scale.

The relation between age and Technological Change score is slight, but on General Change the young again come out more in favour of change than the old. For those under 40 years of age, 38% score at the higher end of the scale and 24% at the lower. For the older group, the percentages are 29% and 34%, respectively.

The association between age and readiness to retrain is moderate ($V = .127$). Of those under 40, 54% would take a night course at their own expense while only 42% of those over 40 would do so.

Age is not related to job dislocation and is only weakly related to readiness to relocate ($V = .096$).

The strongest relationship occurs between age and the scale measuring readiness to accept personal costs of change in terms of general job satisfaction, security, interest, control over work pace, and pay ($V=.232$). On this scale, only 31% of the younger group score on the lower half of the scale (indicating acceptance of the cost) while 53% of those over 40 are prepared to adjust to personal costs of change.

In summary, as one might expect, the trend seems to indicate that younger workers are more likely to be oriented to change, but less likely to accept the negative costs of change.

The effects of age, then, will be controlled for in examination of relationships throughout the study.

2. Education

In line with our hypotheses, the higher educated (completed high school or more) are more likely to score high on the Job Change Scale ($V=.179$), on the Technological Change Scale ($V=.123$) and on the General Change Scale ($V=.130$). The associations are not particularly strong, but the consistency is impressive.

Again, as one would hypothesize, the higher educated, valuing the importance of training, are more likely to say they will retrain at their own expense ($V=.114$). Of the higher educated, 57% will retrain at their own expense as compared to 44% of the lower educated.

Regarding reaction to dislocation (Q.146), it would seem that the higher educated have more confidence in their ability to find a job elsewhere as a higher proportion of the more educated select alternatives one and four, both

referring to finding another job ($V=.134$). On the other hand, there is no significant relation between education and readiness to relocate.

As with retraining, those high on education are less likely to accept the personal cost of change and more likely to look for another job than those low on education ($V=.163$). Only 31% of the more educated score on the lower half of the scale, while 49% of the less educated indicate that they will accept the cost of change.

Thus the higher educated are more likely to favour change in general (as measured by our three scales) and more likely to look for another job when changes with negative impact occur.

3. Atmosphere of Labour-management Relations

When we investigate the effect of the workers' perceptions of the atmosphere of labour-management relations on their general change attitudes, we find, as expected, weak relationships. Labour relations atmosphere plays a much stronger role in the previous chapter on the impact of specific changes and, of course, in Chapter VII on labour relations.

Atmosphere of labour-management relations is only weakly and inconsistently related to the three general change scales.

On readiness to retrain, those in a perceived conflict atmosphere are more likely to want management to pay for the cost of learning new skills but the association is not strong ($V=.068$).

Workers who report an atmosphere of co-operation are more likely to say that they will accept dislocation ($V=.116$), relocation ($V=.125$), and the

personal cost of change ($V = .145$). While these relationships are not particularly strong, the consistency of the findings indicate that people who perceive that they are in an atmosphere of co-operation are more likely to accept work related changes.

In sum, the above relationships between age, education and labour-management atmosphere, and the set of variables measuring attitudes to various aspects of change, confirm some of our anticipations that these variables do play a role in the acceptance and rejection of general and specific change. We have to emphasize that the associations are not particularly strong. However, for those associations that do exist we are sensitized to the need to control for these variables when other types of independent variables are found to relate to change orientations and attitudes.

D. GENERAL CHANGE ORIENTATIONS AND READINESS TO ACCEPT SPECIFIED CONSEQUENCES OF CHANGE

In this section we want to examine the effect of the change orientations, as measured by the three scales, Job Change, Technological Change and General Change, on the variables measuring readiness to accept the consequences of change. We shall try to determine to what extent these general change orientations enable us to predict readiness to accept the consequences of change in terms of retraining, dislocation, relocation and loss of job satisfaction.

1. Readiness to Retrain

There is a fairly strong relationship between job change orientation as measured by the Job Change Scale and readiness to undertake retraining necessitated by change ($V=.174$). Of those who score high on the Job Change Scale, 61% say that they would retrain at their own expense whereas only 32%

of those scoring low indicate that they would be willing to do so (Table 26). This relationship remains invariably strong when we introduce controls for age, atmosphere of labour-management relations and education (V ranges from .124 to .192).

The relationship of technological change orientation (measured by the Technological Change Scale) to readiness to retrain is only moderate ($V=.124$) (Table 27). While 56% of those scoring high on Technological Change indicate they would be willing to retrain at their own expense, only 34% of those scoring low give the same response. This relationship also remains unchanged when we introduce the three controls mentioned above (V ranges from .117 to .139).

General Change Orientation, as measured by the General Change Scale, evinces only a weak relationship to readiness to retrain ($V=.085$) but it is still in the expected direction with 54% of the high scorers indicating readiness to retrain at own expense as compared with 41% of low scorers. When we introduce the three controls, no differences appear with one exception. Among those who indicate that there is an atmosphere of conflict in their company, a fairly strong relationship appears ($V=.131$). In this group 49% of those scoring high on General Change indicate readiness to learn new skills whereas only 32% of those scoring low give the same response.

Of the three levels of general orientations to change, orientations to job change relate strongest to readiness on the part of workers to undertake retraining required by technological change. Orientations to technological change are less strongly related while general change orientations have only a weak relationship to this variable.

TABLE 26

READINESS TO UNDERTAKE RETRAINING BY
JOB SPECIFIC CHANGE SCALE SCORE
(in percentages)

PERCENTAGE SCORING	Percentage saying they would:			No. of cases
	Take a course at own expense	Take a course if management pays cost	Prefer not to retrain	
High (5-11)	61.3%	37.6%	1.1%	952
Medium (12-17)	40.1	51.4	2.5	1071
Low (18-25)	31.5	62.3	6.2	709
TOTAL	47.6	49.4	3.0	
No. of cases	1501	1350	81	2732

Cramer's V = .174

No. of non-responses = 100

TABLE 27

READINESS TO UNDERTAKE RETRAINING BY
TECHNOLOGICAL CHANGE SCALE SCORE
(in percentages)

Percentage saying they would:

PERCENTAGE SCORING	Take a course at own expense	Take a course if management pays cost	Prefer not to retrain	Total	No. of cases
High (6-14)	55.8%	42.0%	2.2%	100.0%	1395
Medium (15-18)	41.8	54.5	3.7	100.0	890
Low (19-30)	33.8	62.4	3.8	100.0	447
TOTAL	47.6	49.4	3.0	100.0	
No. of cases	1301	1350	81		2732

No. of non-responses = 100

Cramer's V = .124

2. Readiness to Accept Dislocation

The relationships of the three scales of change orientations to this variable are comparable to their relationships to readiness to retrain except that for the Job Change Scale the relationship is somewhat weaker ($V=.131$) and for the Technological Change it is somewhat stronger ($V=.153$). The controls for age, education, and atmosphere of labour-management relations have little effect on the relationships for Job and Technological Change: invariably those who score high on these scales are more likely to say that they would accept dislocation as a fact of life and start looking for another job. It should be noted that for those over 40 years of age, those who perceive an atmosphere of co-operation, and those who have high school or more education, the relationship is somewhat stronger, that is, they are still more likely to choose this alternative if they are high scorers.

For General Change the relationship with readiness to accept dislocation is weak ($V=.066$). It is somewhat strengthened for those who perceive an atmosphere of conflict ($V=.119$) and those with high school or more education ($V=.115$). In this case, the strength seems to derive from the fact that respondents with higher education are more likely to say they will quit the job for another than respondents who have some high school or less education. The interpretation seems to be fairly simple: people with higher education are usually more mobile and, hence, more likely to choose the alternative of quitting.

These findings suggest that people who have a favourable orientation to technological change and automation are more likely to accept job dislocation as a consequence of such changes than those who have unfavourable

orientations. The same seems true for orientations to job specific change, while general change orientations again seem to make less of a difference in this respect.

3. Readiness to Relocate

Readiness to relocate or transfer, if it is required by technological change, seems to be influenced by the three levels of orientation to change in very much the same way as readiness to retrain. The order among the three scales is the same, with Job Change having the strongest relationship ($V=.135$), followed by Technological Change ($V=.125$) and General Change ($V=.040$). Again, controls on age, education and atmosphere do not affect the relationship much. In the case of education and atmosphere, the direction of the effect is the same as for readiness to retrain and accept dislocation, showing a somewhat stronger relationship for those with high school or more education and those who perceive an atmosphere of co-operation.

In the case of age, however, the direction is reversed for relocation: whereas for retraining and acceptance of dislocation the relationships were strengthened for those over 40 years of age, in the case of relocation it is strengthened for those less than 40 years of age. All this probably means is that younger people are more likely to accept relocation than older people.

4. Readiness to Accept Personal Costs of Change

The relationship of this variable to general orientations to change is more complex than those of the previous three. At first glance one would expect it to be the same. But there are important differences between this

variable and the other three. Perhaps the best way of summarizing these differences is to note that while retraining, dislocation, and relocation imply a change of job, this variable deals with aspects of the worker's present job and his satisfaction with them. The consequences of change do not imply changing jobs but only having less satisfaction with the job one has. In the case of retraining, dislocation, and relocation, accepting these consequences means accepting a change that might turn out to the advantage of the worker. However, in the case of this variable, acceptance means accepting consequences clearly to the disadvantage of the workers without doing anything about it. Hence, the alternative indicating acceptance of the personal costs of change in terms of job satisfaction, ("Stay on the Job, and adjust as well as you can"), implies a lack of orientation to change, of hanging on to a situation when a change might well be advantageous. We expect, therefore, that those who score high on our measures of orientation to change will score low on the measure of readiness to accept the personal costs of change. They will be more likely to score in the category "least ready" than in the category "most ready".

Contradictory as it may sound, this is what one would expect if one realizes that consideration of the cost of change operates independently of change orientations, that the latter are not simply manifestations of the former. It is for this reason that we considered it necessary to construct a measure of readiness to accept the cost of change separate and independent from our change orientation measures.

The Job Change Scale relates strongly to this variable in the expected direction ($V = .207$). Of those scoring high on Job Change only 9% score "most ready" to accept the personal costs of change, while 32% score "least

ready" (Table 28). On the other hand, of those scoring low on Job Change, 27% score "most ready" and 12% score "least ready". This relationship remains strong when we introduce the controls of age, education, and atmosphere of labour-management relations (V ranges from .187 to .216) and is invariably somewhat stronger for older people, those who perceive an atmosphere of co-operation and those with high school or more education.

Technological Change is the weakest of the three scales in its relationship to readiness to accept cost ($V=.072$). Among high scorers 15% score "most ready" and 24% "least ready" while among low scorers 14% score "most ready" and 17% "least ready". When we control for age, atmosphere and education, this relationship remains weak in all categories.

The General Change Scale falls between the other two with a fairly strong relationship to readiness to accept personal cost of change ($V=.136$). Among high scorers only 9% score "most ready" as compared to 27% scoring "least ready", while among low scorers 22% score "most ready" and only 15% "least ready" (Table 29). The controls of age, education and atmosphere do not affect the strength of the relationship substantially (V ranges from .107 to .147).

With respect to readiness to accept the personal cost of change in terms of job satisfaction, orientations to change on the job specific level and the general societal level seem to have the strongest influence. Since both the Job Change and the Readiness to Accept Costs Scales are job specific in content, it is not surprising that the relationship between these two measurements is the strongest. At the same time the general change orientation can be expected to have a strong relation since it would facilitate the consideration of alternatives when a situation becomes less desirable. A person

TABLE 28

READINESS TO ACCEPT PERSONAL COST OF CHANGE
BY JOB SPECIFIC CHANGE SCALE SCORES
(in percentages)

PERCENTAGE SCORING	Percentage scoring:				<u>Total</u>	<u>No. of cases</u>
	<u>Most ready (5-7)</u>	<u>More ready (8-10)</u>	<u>Less ready (11-14)</u>	<u>Least ready (15-25)</u>		
High (5-11)	9.5%	21.0%	37.8%	31.9%	100.0%	978
Medium (12-17)	12.7	32.3	38.5	16.5	100.0	1110
Low (18-25)	<u>23.9</u>	<u>34.3</u>	<u>26.7</u>	<u>12.1</u>	<u>100.0</u>	<u>744</u>
TOTAL	15.3	28.9	35.1	20.7	100.0	
No. of cases	432	819	996	585		2832

No. of non-responses = 0

Cramer's V = .207

TABLE 24

READINESS TO ACCEPT PERSONAL COST OF
CHANGE BY GENERAL CHANGE SCORE
(in percentages)

PERCENTAGE SCORING	Percentage scoring:				No. of cases
	Most ready (5-7)	More ready (8-10)	Less ready (11-14)	Least ready (15-25)	Total
High (6-13)	8.9%	25.1%	38.7%	27.3%	928
Medium (14-16)	15.4	28.5	36.8	19.3	1049
Low (17-30)	21.9	33.6	29.3	15.2	855
TOTAL	15.3	28.9	35.1	20.7	100.0
No. of cases	432	819	996	585	2832

No. of non-responses = 0

Cramer's $V = .136$

who welcomes change and considers it a normal state of affairs would rather make a change, such as quitting his job, than adjust to a situation where he would have less job satisfaction as a result of change. This type of mobility and facility to move where the best opportunities present themselves is an important part of the adaptability that we associate with the change-prone person. The implications of this for technological change will be explored later.

E. GENERAL CHANGE ORIENTATIONS AND
PERCEPTIONS OF ACTUAL CHANGE

We can now turn to the general change orientations as they relate to the perceptions and evaluations of the specific changes discussed in Chapter II.

The first observation is that, with one exception, our three general change orientation scales—Job Change, Technological Change and General Change—do not relate to any of the variables of perception and evaluation of the specific change. In various cross tabulations of the specific change variables—perceived radicalness of the change, evaluation of its impact on the worker's satisfaction with his job, and adequacy of information and participation—with one or more of the general change scales, no substantial relations are found. Here and there the relationship becomes fairly strong for one category of a control variable, but in these cases it is obvious that the effect of the control variable is the stronger one. In other words, there is no marked tendency for low scorers on the change scales to perceive and evaluate the impact of a specific change event differently from high scorers.

The one exception is the relationship between technological change orientation and evaluation of the impact of change on job satisfaction, which is moderately strong ($V=.122$). There is a fairly strong tendency for high scorers on the Technological Change Scale to have a "Positive Impact" score and for low scorers to have a "Negative Impact" score. In other words, the more unfavourable the orientation to technological change, the more likely that such change will be perceived to have a negative impact on the worker's satisfaction with his job or vice-versa. Of those with high scores on Technological Change 17% report the change had a "Positive Impact" and only 9% a "Negative Impact", while the comparable percentages for those with low scores is reversed (8% and 24% respectively). This relationship is not substantially affected by controls for age, education and atmosphere. Orientations to technological change do seem to colour the perceived impact of a specific change somewhat but not the perception of the radicalness of the change as such.

F. READINESS TO ACCEPT CONSEQUENCES OF
CHANGE AND PERCEPTION OF ACTUAL CHANGE

When it comes to attitudes toward the consequences of change, a more complex picture emerges. It will be recalled that we have used four indicators of readiness to accept the consequences of change: retraining, dislocation, relocation, and cost in job satisfaction. We now take up how the three main perception and evaluation variables—perceived radicalness of change, impact of the specific change on job satisfaction and evaluation of the adequacy of information—as they relate to the four indicators of readiness to accept the consequences of change.

1. Perceived Radicalness of the Change

All four of the indicators of readiness to accept the consequences of change—retraining, dislocation, relocation and cost in job satisfaction—have weak to moderate relationships to the perceived radicalness of the specific change event described (V ranges from .072 to .101). These relationships are all in the same direction, with those who indicate greater readiness to accept the consequences always slightly more likely to say that it was a small change with little or no effect on workers. But the differences are very small, with one exception. Among those who indicate that they either would be ready to participate in a strike against the company before accepting the consequences or that they would refuse to retrain, a substantially larger proportion report that the change was basic in its effect on most workers. However, the total number in this category is small in comparison with the others (N: 78, 79, and 103 in retraining, dislocation and relocation, respectively). The relationship is strongest for dislocation and relocation.

Control for age, education and atmosphere indicate that these variables affect the relationship very little but in different ways. In all four cases the relationship with perception of the radicalness of the change is stronger for people over 40 years of age than for those under 40. For those who perceive an atmosphere of co-operation, the relationship of readiness to retrain and readiness to accept dislocation to the perception of radicalness is stronger, while readiness to relocate and readiness to accept the cost of change are related more strongly for those perceiving an atmosphere of conflict. In both of the latter cases those who indicate the greatest readiness to accept the consequences are somewhat more likely to say

it was a small change than those indicating less readiness. In the conflict cases those indicating least readiness are also more likely to say the change was basic than those who indicate greater readiness. Stated another way, in an atmosphere of co-operation those who perceive the given change as small will be somewhat more likely to indicate readiness to retrain or to accept dislocation as a fact of life, while in an atmosphere of conflict this likelihood is considerably less. On the other hand, in an atmosphere of co-operation there will be little difference between those who see the change as basic and those who see it as small in their readiness to relocate or to accept the cost of change in terms of job satisfaction, while in an atmosphere of conflict those who perceive the change as basic are considerably more likely to resist relocation and to be least ready to accept the cost.

It is difficult to interpret this difference in the effect of the atmosphere variable. It seems to behave like this only on perception of the radicalness of the change and not in evaluation of the impact of the change or adequacy of information. Hence we have to conclude that the relationship between perception of the radicalness of the change and the acceptance of the consequences of change is influenced by the perceived atmosphere in the plant in the directions indicated.

The other control, education, shows a similar effect. In the case of retraining, and in dislocation to a lesser extent, the relationship with perceived radicalness of the change is strengthened for those with some high school or less education, but remains unchanged for those with high school or more. In the cases of relocation and cost in terms of job satisfaction, the relationships are strengthened for those with high school or more education and remain the same for those with less. For retraining

the difference seems to derive from the fact that those with less than a high school education who perceive the change as only a small one are less inclined to undertake retraining. The differences in dislocation and relocation are too small to interpret. For readiness to accept cost, those with the higher education who perceive a small change are more likely to indicate the least readiness to accept cost than those with less education. Perhaps this means that the more highly mobile are less likely to accept the cost of change if they have not had experience with relatively radical change but the data is too weak to justify exploration of this interpretation.

2. Impact of Change on Job Satisfaction

The respondent's evaluation of the impact of the change event on his job satisfaction is only very weakly related to his readiness to accept the consequences of change (V ranges from .040 to .062).

An interesting finding here is that there is no relationship between the evaluation of the impact of the change event on job satisfaction and readiness to accept personal cost in terms of job satisfaction as a result of hypothetical changes. Both indices have job satisfaction content and both are fairly strong in relation to other variables. One might expect that those who report that they have been negatively affected by a given change might be less ready to indicate that they are willing to accept the cost, even if this is only a safety valve effect. In fact, the only very slight trend in the data is in this direction but it never reaches significant proportions, even under the effects of the control variables. This complete lack of relationship between perceived impact of change on job

satisfaction and readiness to accept cost in terms of job satisfaction as a result of change is rather baffling, and merits further investigation.

3. Adequacy of Information

The respondent's evaluation of the adequacy of the information, explanation and advance notice he received relates weakly to his readiness to accept dislocation, relocation, and the cost of change, but not to his readiness to undertake retraining ($V=.030, .074, .086$ and $.084$, respectively). In all cases the relationship seems to derive from the fact that those who score low on adequacy of information are slightly more likely than those who score high to indicate that they would participate in a strike or quit their jobs rather than accept the consequences of change, but the differences are not large. Moreover, when we examine the relationship with readiness in terms of costs of job satisfaction, in an atmosphere of conflict this relationship becomes very weak. In an atmosphere of co-operation it is strengthened by the fact that those who score high on information tend to score higher on readiness to accept the cost of change. Atmosphere again seems to colour the perceptions and evaluations of the situation.

The relationships with readiness to relocate and to accept cost in terms of job satisfaction are also stronger for people over 40 years of age, while they become weak for the younger group. Since there is a fairly strong tendency for older people to report an atmosphere of co-operation, the strength of these relationships may add up to little more than the combined effects of age and atmosphere.

This completes our discussion of the variables used to measure the various aspects of change included in our study (Chapters II and III). In the

rest of the study we consider, in turn, the relationships of a whole range of work related factors to the dependent variables measuring the different aspects of change.

CHAPTER IV

THE WORKER'S ATTITUDE TO HIS JOB

In this chapter we examine the relationships between certain attitudes of workers to their job and their reactions to change. There are many aspects of their attitudes that could be included, but we propose to confine our attention to two which have been found to be of special importance: job satisfaction and alienation. Blauner (1964) and others have argued that intrinsic job satisfaction and alienation from the job differ according to the type of technology characterizing the industry. Three main types of technology have been identified—craft, mass production, and continuous process. Of the industries in our sample, Printing is considered to be an example of a craft industry, Automobiles is a clear case of mass production, Oil and Chemicals mainly involve continuous process production, and Electrical and Steel are mixed technologies which cannot be classified in a single category. Blauner found that alienation was clearly the highest in the Automobile industry and low in both Printing and Chemicals. In this study we also expect that Automobiles will be the highest on dissatisfaction and alienation from the job because of the highly repetitive, fixed nature of their job tasks, and the mechanical pacing of the assembly line.

A. JOB SATISFACTION

Herzberg and his associates have demonstrated clearly that it is important to distinguish between intrinsic and extrinsic job satisfaction (Herzberg, 1959; Burke, 1966; Centers & Bugental, 1966; Ewen, 1964; Wernimont, 1966). It seems particularly important to measure workers' satisfaction or dissatisfaction with intrinsic factors, which are less often articulated in disputes and demands, but, nevertheless, seem to play a critical role in the worker's general orientation to his work situation. Earlier findings seem to suggest a slightly negative relationship between job satisfaction and readiness to accept change (Hardin, 1967; Faunce, 1960). However, many of these earlier generalizations are based on responses to questions asking whether workers think change is necessary or whether they would welcome unspecified changes. And usually job satisfaction is measured by responses to a single general question. We tried to use more reliable measurements by using four items each for intrinsic and extrinsic job satisfaction and by relating these two types of job satisfaction separately, not only to reactions to a real change event, but also to indications of readiness to accept specific consequences of change. The items used in the two scales are listed below (cf. Hardin, 1967):

Intrinsic Job Satisfaction

Q.74 How satisfied are you with the following aspects of your job?

The recognition you get from your job.
Your control over the pace and quality of your work.
The extent to which you can use your skills.
The feeling of accomplishment from the work
you are doing.

Extrinsic Job Satisfaction

Q.74 How satisfied are you with the following aspects of your job?

The conditions under which you have to work
 (lightning, ventilation, etc.).
The opportunities for advancement in your job.
The amount of pay you get on your job.
The amount of security you have on your job.

For each item, respondents were given five alternatives:

Very satisfied
Fairly satisfied
Not certain
Fairly dissatisfied
Very dissatisfied

We summed the four items for each scale so that each had a theoretical range of 4 to 20, with low scores indicating high satisfaction. We divided the range into three categories with slightly different cutting points for the two scales: for Intrinsic Job Satisfaction: High (4-6), Medium (7-10), Low (11-20); for Extrinsic Job Satisfaction: High (4-8), Medium (9-12), Low (13-20).

Of the total sample, 20% score high on the Intrinsic Job Satisfaction Scale, and 30% low. On the Extrinsic Job Satisfaction Scale, 36% score high and 19% low. Since the cutting points on the two scales are not the same, these scores are not quite comparable.

On the Intrinsic Scale the proportions scoring high range from 27% for Oil to 15% for Automobiles (Table 30). Electrical Products (25%) scores close to Oil, while Chemicals and Printing score about the same (20% and 18%, respectively) and Steel close to Automobiles (16%). The proportions scoring low on the scales are consistent with this order although the differences are

TABLE 30

INTRINSIC JOB SATISFACTION BY INDUSTRY
(in percentages)

Percentage scoring:

<u>INDUSTRY</u>	High (4-6)	Medium (7-10)	Low (11-20)	<u>Total</u>	<u>No. of cases</u>
Automobiles	14.7%	41.4%	43.9%	100.0%	503
Chemicals	20.3	51.4	28.3	100.0	290
Electrical	24.6	50.8	24.6	100.0	455
Oil	26.8	53.1	20.1	100.0	538
Printing	18.0	51.2	30.8	100.0	668
Steel	<u>16.7</u>	<u>53.6</u>	<u>29.7</u>	<u>100.0</u>	<u>377</u>
TOTAL	20.2	50.1	29.7	100.0	

No. of cases	572	1418	841	2831
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No. of non-responses = 1

Cramer's V = .128

more pronounced with a range of 20% (Oil) to 44% (Automobiles) but with Chemicals, Steel and Printing close together (28%, 30% and 31%, respectively). As we expected then, Automobiles are the lowest on intrinsic job satisfaction ($V=.128$).

On the Extrinsic Scale, Oil again has the highest proportion of high scores (58%) and lowest percentage of low scores (7%) (Table 31). The only other industry having a ranking on this scale comparable with the Intrinsic Scale is Printing (30% high scores, 22% low scores). Electrical Products, which ranks second highest on Intrinsic Satisfaction, ranks lowest on Extrinsic. Automobiles, on the other hand, with the lowest rank on the Intrinsic Scale, has the second highest rank on the Extrinsic Scale (34% high scores, 19% low scores). The differences among the other industries are small, although as a group they are different from those already discussed. Steel, Chemicals and Printing have similar proportions of high scores (32%, 31%, 30%, respectively) and an only slightly wider range of proportions scoring low (20%, 26% and 22%, respectively) ($V=.169$).

These scales, therefore, seem to indicate different levels of job satisfaction in the different industries. Oil is consistently high on both intrinsic and extrinsic job satisfaction. Electrical Products, while second highest on intrinsic, is lowest on extrinsic satisfaction. The reverse is true for Automobiles, which is lowest on intrinsic and second highest on extrinsic. The scales do not differentiate among the other three industries which have scores closely comparable to the means for the total sample and as such are different from the other three as indicated.

The scores on the Intrinsic Scale follow the pattern that was predicted on the bases of the type of technology characterizing the firms in the sample. In the case of Chemicals, its ranking below Electrical Products can

TABLE 31

EXTRINSIC JOB SATISFACTION BY INDUSTRY
(in percentages)

Percentage scoring:

<u>INDUSTRY</u>	High (<u>4-8</u>)	Medium (<u>9-12</u>)	Low (<u>13-20</u>)	<u>Total</u>	No. of <u>cases</u>
Automobiles	34.4%	46.7%	18.9%	100.0%	503
Chemicals	31.4	43.1	25.5	100.0	290
Electrical	28.1	44.6	27.3	100.0	455
Oil	56.7	36.6	6.7	100.0	538
Printing	29.6	48.2	22.2	100.0	668
Steel	<u>31.8</u>	<u>48.6</u>	<u>19.6</u>	<u>100.0</u>	<u>577</u>
TOTAL	35.9	44.6	19.5	100.0	
No. of cases	1015	1265	551		2831

No. of non-responses = 1

Cramer's V = .109

perhaps be explained by the fact that one of the firms included is actually more comparable to Steel in technology than to the continuous process technology of the other Chemical company and Oil. The fact that Electrical Products and Automobiles rank differently on the two scales should be seen in the light of the economic conditions for these firms. We have classified these two, objectively, in different categories of economic outlook. Perceived business outlook of the workers reflects the same situation. In Automobiles the economic prospects are seen as favourable while in Electrical Products they are seen as unfavourable. This would partially account for the reversal on extrinsic satisfaction, which deals with pay, security, etc. But this finding obviously merits further exploration.

In addition to the scale items, we also asked respondents the question usually used to determine job satisfaction in general:

Q.70 Taking into consideration all the things about your job (work) how satisfied or dissatisfied are you with it?

Very dissatisfied
Fairly dissatisfied
Neither satisfied nor dissatisfied
Fairly satisfied
Very satisfied

The pattern of responses for this question is similar to that for intrinsic job satisfaction and unlike that for extrinsic job satisfaction. Oil again ranks highest on general job satisfaction with the highest proportion (25%) saying they are "very satisfied", and the lowest proportion (11%) saying they are very or fairly dissatisfied (Table 32). Automobiles rank lowest (11% and 22%, respectively), while Electrical Products is second highest (20% and 15%, respectively) and the other three industries rank third, together with only negligible differences in proportion. While this question

TABLE 32

RESPONSES BY INDUSTRY TO THE QUESTION: TAKING INTO
CONSIDERATION ALL THE THINGS ABOUT YOUR JOB, HOW
SATISFIED OR DISSATISFIED ARE YOU WITH IT?

(in percentages)

INDUSTRY	Percentage scoring:				No. of cases
	Very dis- satisfied	Fairly dis- satisfied	Neither satisfied nor dis- satisfied	Fairly satis- fied	Very satis- fied
Automobiles	7.0%	15.0%	20.8%	46.2%	11.0%
Chemicals	5.9	12.5	11.8	53.8	16.0
Electrical	5.8	9.1	15.7	49.7	19.7
Oil	2.4	8.9	12.8	51.1	24.8
Printing	5.1	14.3	12.8	50.8	17.0
Steel	6.1	11.2	15.7	51.3	15.7
TOTAL	5.5	12.0	15.0	50.1	17.6
No. of cases	148	337	422	1414	495

No. of non-responses = 16

Cramer's V = .083

may therefore be a useful indicator for intrinsic job satisfaction, our findings indicate that it may not be as useful for indicating extrinsic job satisfaction ($V=.082$).

B. ALIENATION

Blauner (1964) has argued that different types of technology generate different degrees of aliation from work. Blauner used questions on 1) the extent to which the worker can keep his mind on other things while he works, 2) whether he can leave his job for half an hour without relief, 3) whether his job is interesting or monotonous and, 4) how often he has to make decisions on his job. We included these questions in our questionnaire and included in our sample three of the four industries Blauner studied. In addition, we included Oil, which is a purer example of continuous process than Chemical. Electrical Products and Steel are examples of mixed technologies. The former has craft and mass production characteristics. Steel has characteristics of all three types.

In constructing an indicator of alienation, we finally selected one of the main items that Blauner (1964) and Seeman (1967) have developed.

Q. 95 Which one of the following statements comes closest to describing how you feel about your present job?

My job is interesting nearly all the time.

While my job is interesting most of the time, there are some dull stretches now and then.

There are a few times when my job is interesting, but most of it is pretty dull and monotonous.

My job is completely dull and monotonous.

The industries were initially ranked on all four of the alienation questions and the ranks summed to arrive at an overall rank for alienation. When comparing this overall rank with the ranks for the individual questions, we selected the above question since its rank for the industries is identical with the overall rank, except for a reversal between Chemicals and Electrical Products based on a difference of less than one per cent.

In the total sample 30% say their job is interesting most of the time, 50% that it has some dull stretches now and then, and 20% indicate that their jobs are mostly or completely dull and monotonous (Table 33). Automobiles has the highest proportion saying their job is mostly or completely dull and monotonous (38%) while Oil has the lowest (9%). The differences among the other four industries are very small with a range of only two per cent (17-19%), but as a group they are closer to Oil than to Automobiles ($V=.182$). The ranking of the industries on this alienation question is virtually identical with that on the Intrinsic Job Satisfaction Scale.

Looking once more at the ranking for industries on intrinsic job satisfaction, extrinsic job satisfaction, general satisfaction and alienation, Oil clearly emerges as the "most satisfied", ranking highest on the three satisfaction scores and second lowest on alienation. Automobile workers, on the other hand, can perhaps be referred to as the "least satisfied" since they are highest on alienation and lowest on intrinsic and general satisfaction (although second highest on extrinsic).

Before turning to relationships between attitudes to job and change, it may be noted that Atmosphere (that is, whether labour-management relations are marked by conflict or co-operation) was found to be strongly related to intrinsic job satisfaction ($V=.287$), to extrinsic job satisfaction

TABLE 22

RESPONSES BY INDUSTRY TO THE QUESTION: WHICH ONE
OF THE FOLLOWING STATEMENTS COMES CLOSEST TO
DESCRIBING HOW YOU FEEL ABOUT YOUR PRESENT JOB?

INDUSTRY	Percentage saying:				Total	No. of cases
	Job is in- teresting nearly all the time	Some dull stretches now and then	Most of job is dull and monotonous	Completely dull and monotonous		
Automobiles	29.8%	52.4%	24.6%	13.2%	100.0%	500
Chemicals	31.6	50.5	15.0	2.1	100.0	286
Electrical	29.4	54.0	15.5	1.1	100.0	457
Oil	39.2	52.1	6.1	3.6	100.0	551
Printing	25.5	55.6	17.2	1.7	100.0	653
Steel	25.5	57.5	15.7	1.3	100.0	576
TOTAL	30.1	50.5	16.2	3.4	100.0	
No. of cases	846	1414	455	96		2811

No. of non-responses = 21

Cramer's V = .182

($V=.294$), and to alienation ($V=.257$). Where controls of age and education are introduced, the relationship, in the first two cases, is strengthened for those over 40 (V 's over $.300$ in both cases) and in all three cases, is strengthened for those with lower education (V 's = $.311$, $.305$ and $.279$, respectively).

Atmosphere, as well as age and education, will be controlled in the following analysis.

C. ATTITUDES TO JOB AND CHANGE

We now turn to the analysis of the relationships of intrinsic and extrinsic job satisfaction and alienation to the two broad categories of variables relating to change, namely:

1. Perception and evaluation of the actual change event
2. Readiness to accept specified consequences of change

1. Perception and Evaluation of the Actual Change Event

(a) Perceived Radicalness of Change

The worker's perception of the radicalness of the change and of the difference it made in his own work are only weakly related to job satisfaction, with the less satisfied slightly more likely to perceive the change as basic and having made a difference in their work. The same direction is found in a weak relationship between alienation and perception of the change: those who consider their jobs dull and monotonous are somewhat more likely to say the change has made a "great deal" of difference in their work ($V = .092$). This relationship becomes stronger for those under 40 years of age

($V=.101$), those perceiving a conflict atmosphere ($V=.115$), and those with high school or more education ($V=.126$).

(b) Evaluation of the Impact of the Change

Since this aspect deals with the impact of the change event on the worker's job satisfaction, we expected that job satisfaction would relate to it with low satisfaction being associated with report of a negative impact. This is indeed what we find on both Intrinsic and Extrinsic Scales. For example, on the Intrinsic Scale, 24% of those low on satisfaction report a negative impact as compared with only 6% of those high on satisfaction ($V=.173$) (Table 34). Almost exactly the reverse proportions report a positive impact. Controls for age, education and atmosphere do not affect the relationship substantially.

Alienation, as measured by the perceived dullness and monotony of the job, relates in the same direction and with comparable strength to the perceived impact of change ($V=.180$). A higher proportion of those who say their jobs are dull and monotonous report a negative impact than of those who see their jobs as interesting. And this relationship also remains strong under the effect of the controls.

(c) Adequacy of Information

Since this variable measures the worker's satisfaction with the way the change was handled by the company, we expected that job satisfaction would have some effect on it. It would seem that those who are dissatisfied with their jobs would be more likely to be dissatisfied with the way change is handled, particularly the information they receive about it. The same expectation applies to work alienation.

TABLE 34

EVALUATION OF IMPACT OF CHANGE
ON JOB SATISFACTION BY INTRINSIC
JOB SATISFACTION
(in percentages)

INTRINSIC JOB SATISFACTION PERCENTAGE SCORING	Percentage indicating:			Total	No. of cases
	Positive impact (4-6)	No impact (7-8)	Negative impact (9-12)		
High (4-6)	21.5%	72.2%	6.3%	100.0%	572
Medium (7-10)	14.1	76.9	9.0	100.0	1419
Low (11-20)	<u>7.5</u>	<u>68.6</u>	<u>23.9</u>	<u>100.0</u>	<u>841</u>
TOTAL	13.6	73.5	12.9	100.0	
No. of cases	386	2081	365		2832

No. of non-responses = 0

Cramer's V = .173

The relationships of both the job satisfaction scales and the alienation measure to adequacy of information are fairly strong ($V=.153$ for Intrinsic, $.172$ for Extrinsic, and $.150$ for Alienation). All relationships are in the expected direction. Of those high on extrinsic satisfaction, for example, 77% say information about the change was adequate while only 16% say it was not adequate (Table 35). On the other hand, those low on satisfaction are almost equally likely to say information was adequate as they are to say it was moderate (46% and 43%, respectively). These relationships remain strong when controls for age, education and atmosphere are introduced, but are strongest for those over 40 years old, those with some high school or less education, and those who perceive an atmosphere of co-operation. In an atmosphere of conflict, as we have seen with other variables, a positive relationship like this one is likely to be weaker.

(d) Workers' Participation in Decision-making

Although job satisfaction relates in the same direction to perceived worker's participation in the change decisions, it is much weaker (V ranges from $.117$ to $.130$) and becomes extremely weak under the effect of controls, especially atmosphere. In a conflict atmosphere, job satisfaction shows no substantial relation to perceived worker participation.

Job satisfaction and alienation seem to be important factors in colouring the worker's evaluation of the impact of the change on his job as well as his evaluation of the manner in which the change was introduced by the company.

TABLE 35

ADEQUACY OF INFORMATION BY
EXTRINSIC JOB SATISFACTION
(in percentages)

Percentage indicating :					
<u>PERCENTAGE</u> <u>SCORING</u>	<u>Low</u> <u>infor-</u> <u>mation</u> <u>(3-5)</u>	<u>Medium</u> <u>infor-</u> <u>mation</u> <u>(6)</u>	<u>High</u> <u>infor-</u> <u>mation</u> <u>(7-9)</u>	<u>Total</u>	<u>No. of</u> <u>Cases</u>
High (4-8)	16.3%	6.5%	77.2%	100.0%	1015
Medium (9-12)	28.1	10.3	61.6	100.0	1265
Low (13-20)	<u>42.9</u>	<u>11.4</u>	<u>45.7</u>	<u>100.0</u>	<u>552</u>
TOTAL	26.7	9.1	64.2	100.0	
No. of cases	757	259	1816		2832

No. of non-responses = 0

Cramer's V = .172

2. Readiness to Accept Specified Consequences of Change

We expected that job satisfaction would relate most strongly to the worker's readiness to accept the costs of change in terms of job satisfaction since the measure was specifically formed on the same aspects of the worker's job as the satisfaction scales. We expected that high job satisfaction would be associated with most readiness to accept cost. On the other hand, the other measures of readiness dealt with job changes rather than job content and the same relationship would not be expected to hold there, at least not with the same strength.

(a) Readiness to Undertake Retraining

There is no significant relationship between either of the job satisfaction scales and readiness to undertake retraining. Alienation is weakly related to it in the expected direction ($V=.076$). The more interesting the job is defined to be, the larger the proportion saying they are willing to retrain at their own expense. When we control for age, education, and atmosphere, the relation is strengthened for those under 40 years of age ($V=.115$), those in a conflict atmosphere ($V=.143$), and those with the higher education ($V=.138$). It is interesting to note that although in a conflict atmosphere workers are much less likely to say their job is interesting, if they do say so they are more likely to indicate willingness to retrain at their own expense than in an atmosphere of co-operation.

(b) Readiness to Accept Dislocation

Both the job satisfaction scales and the alienation measure relate weakly to readiness to accept dislocation (Intrinsic Satisfaction: $V=.069$,

Extrinsic: $V=.105$, Alienation: $V=.057$). The direction is as expected: the more satisfied and less alienated are more likely to accept dislocation. The weak relationship with intrinsic satisfaction and alienation virtually disappears in an atmosphere of conflict, while the relationship of extrinsic satisfaction to this variable is strengthened in an atmosphere of conflict ($V=.115$).

(c) Readiness to Accept Relocation

Job satisfaction and alienation relate in the same direction and with about the same strength to this aspect of readiness to accept the consequences of change (Intrinsic $V=.080$, Extrinsic $V=.109$, Alienation $V=.085$). The direction is again as expected with the more satisfied and less alienated more ready to relocate. The introduction of controls does not affect these relationships substantially, although all three are stronger for those in an atmosphere of conflict, those under 40 years of age and those with high school or more education, in other words, among the more mobile workers.

(d) Readiness to Accept the Personal Costs of Change

This composite measure of readiness to accept less job satisfaction as a result of change has the strongest relationship to job satisfaction, but for alienation the strength is about the same as for the other measures in this group (Intrinsic $V=.145$, Extrinsic $V=.131$, Alienation $V=.092$). As the Table for Intrinsic Job Satisfaction shows, the relationship is positive ($V=.145$) with 23% of those high in satisfaction scoring "most ready" while only 15% score "least ready" (Table 36). Controls for age, education and atmosphere do not alter the strength of these relationships significantly.

TABLE 36

READINESS TO ACCEPT PERSONAL COST OF
CHANGE BY INTRINSIC JOB SATISFACTION
(in percentages)

Percentage scoring:

PERCENTAGE SCORING	Percentage scoring:				No. of cases
	Most ready (5-7)	More ready (8-10)	less ready (11-14)	least ready (15-25)	

High
(4-6)

100.0%

572

Medium
(7-10)

100.0

1419

Low
(11-20)

100.0

541

TOTAL

100.0

2852

No. of cases

585

No. of non-responses = 0

Cramer's V = .145

In sum, job satisfaction, and to a lesser extent, alienation, seem to be important factors in relation to the readiness of workers to accept various types of consequences of work related changes. The associations of job satisfaction and alienation with readiness to accept specified costs of change in terms of current job satisfaction, as measured by, the Readiness to Accept the Personal Costs Scale, seem to be substantially stronger than with those implying a change of job, namely, readiness to retrain, to dislocate, and to relocate.

In this chapter we have investigated two sets of relationships. First, job satisfaction and alienation were related to type of industry. Second, we examined the associations of job satisfaction and alienation with orientations to actual changes and hypothetical consequences.

On the first count, the main difference was that Oil workers emerged as the most satisfied with their jobs and the Automobile workers as the least satisfied. The second set of relationships demonstrated that both job satisfaction and alienation seemed to be important factors in relation to the two dimensions of change--the perceptions and evaluations of the actual changes, and orientations to the hypothetical consequences.

In Chapter V we broaden our frame of reference to consider the role of occupational characteristics, in particular, the level of occupational skill and relationship to technology. We expect these to have an influence on attitudes to change independent of the more specific features of the worker's job examined in this chapter.

REFERENCES

- 1/ Note that this relationship between Technological Change Scale and intrinsic satisfaction is in the opposite direction of the weak relationship of Job Change where high scorers were more likely to score low on intrinsic satisfaction.

CHAPTER V

OCCUPATION AND TECHNOLOGY

Certain occupational characteristics have a significant effect on how a person evaluates industrial change. We describe below the profile of our sample on a number of such variables. We also select two that we consider the most important—level of skill and relation to technology—and examine the relation of each to selected aspects of the worker's perceptions of the actual change event and his readiness to accept specified consequences of change in industry.

A. LEVELS OF SKILL

As we have seen, our sample in each industry consists of three broad categories: direct salaried supervisory, skilled maintenance, and direct production workers.

We make a distinction between managerial and foremen by referring to all levels above first line supervisors as managerial, but for many purposes these two categories can and will be combined. Skilled maintenance is a single category consisting of all journeymen in recognized maintenance trades. We separate production workers into skilled and semi-skilled, with the skilled category including all tradesmen (e.g., printers), and all workers

whose jobs require more than two years training (e.g., oil refinery operator).

In Table 37 we note that, in the total sample, 15% are supervisory, 22% skilled maintenance, 37% skilled production and 26% semi-skilled production. In contrast to the overall sample, Automobiles has a heavy concentration of workers in semi-skilled production; skilled production is non-existent. Oil and Printing, compared to the others, are low in semi-skilled production while Printing alone is very high in the skilled production category. Chemicals has a considerably larger representation of managerial-foremen positions. These differences in the industrial samples could be particularly relevant to differences among the industries in attitudes to change and in relation to technology.

B. RELATION TO TECHNOLOGY

To develop a measure of relation to technology, we asked the respondent to place himself in one of the following six precoded categories:

1. Minding and checking a continuous automatic process.

Workers in this category do not directly handle the product which goes through its entire cycle of operations in pipes and enclosed reactors. Production is continuous, controlled remotely by the operator who monitors a panel of instruments in centralized control rooms. Oil and, in some respects Chemical, are considered pure types (Blauner, 1964, p. 145).

2. Using tools to produce something that requires a lot of skill.

3. Using and controlling a machine to do a job that requires a lot of decisions and skill on my part.

TABLE 57

LEVEL OF OCCUPATIONAL SKILL BY INDUSTRY
(in percentages)

Percentage coded as:

<u>INDUSTRY</u>	<u>Managerial</u>	<u>Foremen</u>	<u>Skilled produc- tion</u>	<u>Semi- skilled produc- tion</u>	<u>Skilled trade (maint- enance)</u>	<u>Total</u>	<u>No. of cases</u>
Automobiles	6.8%	9.7%	0.0%	65.4%	18.1%	100.0%	503
Chemicals	12.3	12.6	20.7	23.2	31.2	100.0	285
Electrical	3.7	10.1	38.1	34.9	13.2	100.0	455
Oil	4.7	7.3	43.7	5.6	38.7	100.0	537
Printing	2.4	8.1	77.7	9.3	2.5	100.0	661
Steel	6.1	16.7	11.2	23.3	42.7	100.0	330
TOTAL	5.3	10.0	36.9	26.0	21.8	100.0	
No. of cases	147	279	1022	723	606		2777

No. of non-responses = 55

Cramer's V = .354

For most purposes, 2 and 3 can be combined. We expect Printing, because of its craft technology, to exhibit the highest proportion in these two categories, with Electrical Products ranking second.

4. Using a machine that does not require much skill.

In this category we had in mind machine operators whose job could be learned in a period of a few months. Electrical Products should be the highest although there are also a great many skilled machine operators in this industry.

5. Always doing the same part of a job on the assembly line.

Characteristic of the assembly line is the orderly, uninterrupted progression of the product through the shop on a conveyor belt. Parts of the product are assembled as the product passes the worker's station, with the worker usually performing only one operation (Blauner, 1964, p. 90; Walker and Guest, 1952, p. 98). Clearly this category is geared to the Automobile industry in our sample.

6. Not a production worker.

This is a residual alternative into which most of the supervisory and maintenance people will fall.

Table 38 shows that our classification of the industries coincides fairly closely with the way respondents classify themselves. Oil and Chemical workers are much more likely to classify themselves as "minding and checking a continuous automatic process".

TABLE 28

RESPONSES BY INDUSTRY TO THE QUESTION:
WHICH ONE OF THE FOLLOWING COMES CLOSEST
TO DESCRIBING WHAT YOU DO ON YOUR JOB?
(in percentages)

INDUSTRY	Percentage saying:					Total	No. of cases
	Continuous automatic process	High skilled tools	High skilled machine operation	Low skilled machine tending	Assembly line	Not a production worker	
Automobiles	11.0%	12.4%	3.3%	5.7%	29.5%	38.1%	492
Chemicals	26.5	10.3	15.3	8.2	1.8	38.1	281
Electrical	2.0	37.1	24.1	7.0	7.4	22.1	444
Oil	44.2	11.5	10.7	1.1	0.4	32.5	524
Printing	.0	21.3	59.3	4.1	5.9	22.4	551
Steel	13.0	9.5	25.2	4.6	4.1	45.6	359
TOTAL	16.7	17.7	20.8	4.8	5.1	31.4	100.0
No. of cases	465	491	515	132	259	671	2771

No. of non-responses = 61

Cramer's V = .26

Combining categories 2 and 3 we find that about 61% of the Printing and Electrical workers place themselves in jobs requiring a lot of skill. This compares with a range from 16% to 35% for the other industries.

It seems evident that workers are likely to over-emphasize the skill required to operate their machines. Only 5% of the sample select the fourth alternative, "using a machine that does not require much skill". Electrical Products is among the highest as expected (7%) but much below the proportion that we would have objectively classified into this category.

The 29% of the Automobile workers who classify themselves as assembly line workers is a much higher proportion than in any of the other industries.

The residual category of "not a production worker" is almost one-third of the total sample as it includes most of the supervisor and maintenance respondents.

C. OCCUPATIONAL MOBILITY AND STABILITY

Mobility and stability are aspects of occupation that can be expected to relate to attitudes to change in the following directions: the more mobile and the more stable being more likely to favour change than the less mobile and less stable. We define occupational mobility as the number of times an individual has changed jobs and occupational stability as the number of times an individual has been unemployed.

Automobile workers show the greatest mobility with 40% having changed jobs five or more times (Table 39). In Printing, 23% have never changed jobs compared to the other industries which range from 6% to 18%.

TABLE 39

RESPONSES BY INDUSTRY TO THE QUESTION: HOW MANY
TIMES HAVE YOU CHANGED JOBS SINCE YOU LEFT SCHOOL?
(in percentages)

Percentage saying:

<u>INDUSTRY</u>	<u>Never</u>	<u>Once</u>	<u>Twice</u>	<u>Three times</u>	<u>Four times</u>	<u>Five or more times</u>	<u>Total</u>	<u>No. of cases</u>
Automobiles	5.9%	6.9%	12.6%	15.9%	18.7%	40.0%	100.0%	491
Chemicals	14.8	17.3	14.1	16.2	10.9	26.7	100.0	284
Electrical	14.5	13.2	11.4	12.1	13.0	35.8	100.0	447
Oil	10.5	18.6	19.4	16.5	13.3	21.7	100.0	532
Printing	23.0	14.8	12.2	13.1	11.0	25.9	100.0	362
Steel	17.7	14.7	16.1	16.1	12.1	25.3	100.0	373
TOTAL	14.7	14.1	14.2	14.8	13.3	26.9	100.0	
No. of cases	410	394	397	413	370	805		2789

No. of non-responses = 43

Cramer's V = .112

The same pattern occurs for Automobile and Printing workers on our measure of stability (Table 40). Ranking industries by those who have never or only once been unemployed, and those who have been unemployed five or more times, the following order emerges.

<u>Unemployed Never or Once</u>		<u>Unemployed Five or More Times</u>	
Printing	90.8%	Automobile	14.9%
Oil	85.0%	Steel	6.7%
Chemicals	78.7%	Chemical	6.3%
Electrical	77.4%	Electrical	4.4%
Steel	61.4%	Oil	3.4%
Automobile	54.3%	Printing	2.3%
TOTAL	75.7%	TOTAL	6.1%

Employment in Printing and Oil appears to be more stable, and in Automobiles less stable, than the others, following the same pattern as was found for mobility.

D. INTRINSIC VS. EXTRINSIC CONCERNS

We asked respondents what factors they would consider the most important for themselves in taking a new job. We then listed four intrinsic and three extrinsic alternatives from which they were to choose one:

- 1 Higher pay and benefits
- 2 More interesting work
- 3 More security
- 4 More control over my work pace and quality
- 5 Better chance to use my abilities
- 6 Better opportunities for advancement
- 7 A greater sense of accomplishment

For the total sample, extrinsic alternatives (1, 3, and 6) were selected more frequently than intrinsic ones (2, 4, 5, and 7)—60% as compared to 40% (Table 41).

TABLE 40

RESPONSES BY INDUSTRY TO THE QUESTION: HOW MANY
TIMES HAVE YOU BEEN UNEMPLOYED FOR MORE THAN A
MONTH SINCE YOU FIRST STARTED TO WORK FULL TIME?
(in percentages)

INDUSTRY	Percentage saying:					No. of cases
	Never	Once	Twice	Three times	Four times	Five or more times
Automobiles	33.6%	20.6%	12.5%	11.1%	7.3%	14.9%
Chemicals	56.3	22.4	8.4	4.2	2.4	6.3
Electrical	56.3	21.2	8.8	6.6	2.7	4.4
Oil	67.7	17.3	6.2	4.1	1.3	3.4
Printing	71.9	17.9	4.2	2.9	0.8	2.3
Steel	38.6	22.7	16.5	10.7	4.8	6.7
TOTAL	55.7	19.9	8.9	6.4	3.0	6.1
No. of cases	1563	557	249	178	85	170
						2802

No. of non-responses = 50

Cramer's V = .159

TABLE 41

RESPONSES BY INDUSTRY TO THE QUESTION: WHEN YOU THINK ABOUT TAKING A JOB IN ANOTHER PLANT OR COMPANY, WHAT DO YOU THINK IS THE MOST IMPORTANT CONSIDERATION?

(in percentages)

Percentage saying:

INDUSTRY	Higher pay & benefits	More interesting work	More security	More control over work pace and quality	Better chance to use abilities	Better opportunity for advancement	Greater sense of accomplishment	No. of cases	
								Total	Total
Automobiles	20.2%	14.4%	17.6%	6.0%	16.6%	15.1%	10.1%	100.0%	465
Chemicals	22.6	9.2	20.3	1.8	12.5	21.4	12.2	100.0	271
Electrical	21.5	11.9	16.6	2.6	16.8	22.0	8.6	100.0	428
Oil	24.0	8.0	9.7	1.8	14.6	29.8	12.1	100.0	487
Printing	22.0	9.0	10.7	2.2	20.1	24.8	11.2	100.0	636
Steel	24.4	8.2	18.3	3.1	12.7	23.7	9.6	100.0	355
TOTAL	22.4	10.1	14.7	3.0	16.2	23.0	10.6	100.0	
No. of cases	591	268	388	78	427	609	281		2642

No. of non-responses = 190

Cramer's V = .089

Looking first at extrinsic selections, "higher pay and benefits" varies very little by industry. Oil and Printing workers are less concerned about "security" than other workers. Respondents in the Oil industry select "better opportunities for advancement" more often than other respondents.

As for intrinsic factors, Automobile workers are more likely to choose "more interesting work" and "more control over the pace and quality of work". This, of course, bears out our objective ranking of Automobile workers as low on these variables. Differences between the industries on "a better chance to use abilities" and "a greater sense of accomplishment" are slight.

E. CONTACT WITH OTHER WORKERS

The final two variables in this section refer to the amount and type of contact that workers have with each other.

Oil operators, working in small groups in centralized control rooms, have a great deal of contact with other workers. The same is true, to a lesser extent, for those in the Chemical industry. Similarly, the work gang is characteristic of the Steel industry (Walker, 1950). In the Automobile industry, on the assembly line, there is opportunity for contact with only a few individuals across the line from or adjacent to the worker. Workers in Electrical Products and Printing are more likely to be operating individual machines by themselves.

Two of our questions should reflect the above differences. We asked respondents how much contact they had with fellow workers, and whether or not they considered themselves members of a work group (and if so what is the size of this group). In amount of contact with other workers, our pre-conceptions were generally correct. Oil, Steel and Chemical workers have

the most contact with fellow workers. Automobile workers are slightly lower, and Electrical and Chemical the lowest (Table 42). Almost twice the proportion of Oil workers (74%) as Printers (40%) or Electrical workers (36%) say they work in a team or gang with lots of contact. This same pattern is just as pronounced in terms of whether or not an individual considers himself part of a work group (this table is not reported here).

The size of a work group that a person perceives himself as being in may also be of some interest. Of those individuals who say they consider themselves members of a work group, Oil, Steel and Chemical workers are more likely to work in groups with two to four people. Automobile and to a lesser extent, Electrical workers feel that they work in much larger groups (Table 43).

Of the five variables reviewed above, we have selected two, level of occupational skill and relation to technology, to be used in further analysis. In this chapter we will examine the relationship of these two occupational variables to perceptions of and attitudes toward change.

F. PERCEPTIONS AND EVALUATION OF ACTUAL CHANGE

We shall here compare the workers at different occupational skill levels with respect to the perceived difference the change made in their own work, the impact of the change on their job satisfaction, and their evaluation of the way the company handled the change event. On the whole, we expect that the higher levels of occupation and skill will have more positive attitudes to change, and will report more favourably on the impact of actual change on them.

TABLE 42

RESPONSES BY INDUSTRY TO THE QUESTION: WHICH OF
THE FOLLOWING SITUATIONS BEST DESCRIBE THE AMOUNT
OF CONTACT YOU HAVE WITH OTHER WORKERS ON YOUR JOB?
(in percentages)

INDUSTRY	Percentage saying:					Total	No. of cases
	In a team or gang with lots of contact	In frequent contact with one other person	Alone, but in easy talking distance	Alone, can talk if I shout	Alone & cannot talk to others		
Automobiles	47.8%	15.0%	27.8%	5.1%	4.3%	100.0%	493
Chemicals	54.2	17.0	19.1	2.1	7.6	100.0	288
Electrical	36.2	13.3	34.7	7.6	8.2	100.0	450
Oil	73.7	17.0	6.6	0.6	2.1	100.0	529
Printing	39.8	14.0	37.3	4.2	4.7	100.0	664
Steel	63.8	15.8	15.3	1.1	4.0	100.0	373
TOTAL	51.7	15.2	24.6	3.6	4.9	100.0	
No. of cases	1447	425	688	100	137		2797

No. of non-responses = 35

Cramer's V = .170

TABLE 43

RESPONSES BY INDUSTRY TO THE QUESTION: HOW
MANY PEOPLE ARE THERE IN YOUR WORK GROUP?
(in percentages)

Percentage saying:

<u>INDUSTRY</u>	<u>2-4 people</u>	<u>5-9 people</u>	<u>10-14 people</u>	<u>15-19 people</u>	<u>20 or more people</u>	<u>Total</u>	<u>No. of cases</u>
Automobiles	18.5%	23.4%	12.2%	8.4%	37.4%	100.0%	367
Chemicals	37.0	34.0	11.8	6.7	10.5	100.0	238
Electrical	22.8	22.8	14.9	5.3	34.2	100.0	302
Oil	40.5	21.5	11.6	7.2	19.2	100.0	475
Printing	20.2	31.9	12.7	8.2	23.0	100.0	465
Steel	31.6	24.0	13.2	5.7	25.5	100.0	333
TOTAL	29.5	26.0	12.7	8.7	25.1	100.0	
No. of cases	645	566	276	145	548		2180

No. of non-responses = 652

Cramer's V = .121

1. Difference Change Made in
Respondent's Own Work

As expected, managers and foremen are more likely to say that the change made a difference in their work with 23% and 31%, respectively, saying it made "quite" or "a great deal" of difference compared with a range from 12% to 18% for the other categories. The relationship remains controlling for age, education, and atmosphere of labour-management relations.

On the question of whether the change made any difference in their work, Table 44 shows that a greater proportion of continuous operators and assembly linemen say the change made a lot of difference ($V=.115$). For example, 24.3% of the continuous process operators and 23.2% of the assembly line workers say that the change made quite a lot or a great deal of difference in their work. The other industries range from 10.5% to 14.7% in reporting such differences. These industry differences coincide with our classification of change issues in which Oil and Automobiles were the most radical. The relationship remains strong when age, atmosphere, and education are introduced as controls.

2. Evaluation of the Impact of the Change

On the scale measuring the impact of change, managers, foremen and to some extent, skilled maintenance workers are, as we expected, much more likely to report a positive impact (Table 45). For managers and foremen, about 28% and 29%, respectively, report a positive impact and only about 5% a negative impact. For production workers the direction is reversed with some respondents indicating a negative rather than a positive impact. Fourteen per cent of the skilled and 19% of the semi-skilled say they are less satisfied as a result of the change while only 9% and 10%, respectively,

TABLE 44

REPORTED DIFFERENCE THE CHANGE MADE IN RESPONDENT'S
WORK BY RELATIONSHIP TO TECHNOLOGY
(in percentages)

The change made:

RELATIONSHIP TO TECHNOLOGY	No dif- ference	A little difference	Some dif- ference	Quite a lot of dif- ference	A great deal of dif- ference	Total	No. of cases
Continuous automatic process	40.5%	17.4%	17.4%	15.9%	10.8%	100.0%	454
High skilled tools	62.9	16.4	10.2	6.2	4.3	100.0	470
High skilled machine operation	62.7	9.8	13.4	7.5	6.6	100.0	560
Low skilled machine tending	56.7	18.9	11.8	5.5	7.1	100.0	127
Assembly line	51.6	22.8	22.4	10.5	12.7	100.0	237
Not production worker	50.7	18.4	16.2	8.7	6.0	100.0	851
TOTAL	52.2	16.5	15.1	8.9	7.3	100.0	
No. of cases	1409	446	408	240	196		2699
No. of non-responses = 135							
							Cramer's V = .115

135

TABLE 45

EVALUATION OF IMPACT OF CHANGE ON JOB SATISFACTION
BY LEVEL OF OCCUPATIONAL SKILL
(in percentages)

Percentage indicating:

LEVEL OF OCCUPATIONAL SKILL	Positive impact (4-6)	No impact (7-8)	Negative impact (9-12)	Total	No. of cases
Managerial	27.9%	66.0%	6.1%	100.0%	147
Foremen	29.4	65.2	5.4	100.0	279
Skilled production	8.6	77.9	13.5	100.0	1022
Semi-skilled production	9.9	70.7	19.3	100.0	724
Skilled trade (maintenance)	14.2	76.4	9.4	100.0	606
TOTAL	13.3	73.8	12.9	100.0	
No. of cases	369	2050	359		2778

No. of non-responses = 54

Cramer's V = .167

feel that they benefited from the change. The relationship holds when we control for age, atmosphere and education, although those in a conflict atmosphere are more likely to register a negative impact.

With respect to perceived relation to technology, the relationship is again in the expected direction and is fairly strong. ($V=.139$). Looking at production workers only, continuous process operators are the only group significantly more satisfied than dissatisfied on the impact of change scale. Semi-skilled machine operators and assembly linemen are much more dissatisfied than satisfied. The only other group which has a preponderance of positive over negative responses is the non-production category (mainly supervisory and skilled maintenance workers). These relationships are summarized in Table 46 which shows the differences in proportions reporting positive impact over those reporting negative impact for each type of relationship to technology.

Table 46

Percentage Differences of Categories of
Relationships to Technology on
Reported Impact of Change

<u>Relationship to Technology</u>	<u>% Positive Impact Minus % Negative Impact</u>
Continuous Process	+ 8.2
Tools that require skill	- 0.0
Machines that require skill	- 4.4
Machines not requiring skill	-13.6
Assembly line	-18.8
Non-production	+ 8.1

Atmosphere and education do not affect the relationship. The association alters when age is introduced, with the younger group being more inclined to indicate a negative impact and the older group more likely to select the "No Impact" category. The overall association still remains significant ($V=.101$ for 40 years and older; $V=.192$ for under 40 years).

3. Adequacy of Information

Level of occupational skill also relates fairly strongly to the respondent's evaluation of the way the change was handled by the company as measured by perceived adequacy of information. In this case, too, we expected managers and supervisors to indicate satisfaction more often than other categories. Table 47 shows that they do so overwhelmingly ($V=.168$). Ninety-four per cent of the managers and 86% of the foremen indicate that information was adequate compared to a range from 55% to 67% for the other categories. The relationship is not significantly altered when age, education and atmosphere are introduced as controls.

If we examine the relationship between perceived relation to technology and adequacy of information, we find that continuous process operators are much more likely to be satisfied with information about change ($V=.147$). Almost 75% of these operators feel that they had adequate advance information as compared to a range of 51% to 56% for the other categories of production workers (Table 48).

G. READINESS TO ACCEPT SPECIFIED CONSEQUENCES OF CHANGE

For readiness to learn new skills and to relocate, the percentages giving the most ready response in each occupational category are as given in Table 49.

TABLE 47

ADEQUACY OF INFORMATION BY
LEVEL OF OCCUPATIONAL SKILL
(in percentages)

Percentage indicating:

<u>LEVEL OF OCCUPATIONAL SKILL</u>	<u>Low infor- mation (3-5)</u>	<u>Medium infor- mation (6)</u>	<u>High infor- mation (7-9)</u>	<u>Total</u>	<u>No. of Cases</u>
Managerial	3.4%	2.7%	93.9%	100.0%	147
Foremen	8.6	5.7	85.7	100.0	279
Skilled production	31.4	9.1	59.5	100.0	1022
Semi-skilled production	33.7	11.7	54.6	100.0	724
Skilled trade (maintenance)	<u>24.3</u>	<u>9.1</u>	<u>66.6</u>	<u>100.0</u>	<u>606</u>
TOTAL	26.7	9.1	64.2	100.0	
No. of cases	741	253	1784		2778

No. of non-responses = 54

TABLE 48

ADEQUACY OF INFORMATION BY
RELATIONSHIP TO TECHNOLOGY
(in percentages)

Percentage indicating:					
<u>RELATIONSHIP TO TECHNOLOGY</u>	<u>Low infor- mation (3-5)</u>	<u>Medium infor- mation (6)</u>	<u>High infor- mation (7-9)</u>	<u>Total</u>	<u>No. of Cases</u>
Continuous automatic process	15.6%	10.2%	74.2%	100.0%	463
High skilled tools	35.0	10.0	55.0	100.0	491
High skilled machine operation	35.1	9.4	55.5	100.0	575
Low skilled machine tending	36.4	12.9	50.7	100.0	132
Assembly line	35.0	8.8	56.2	100.0	240
Not production worker	19.5	7.3	73.2	100.0	871
TOTAL	27.0	9.1	63.9	100.0	
No. of cases	748	252	1772		2772
No. of non-responses = 60					

TABLE 49

	<u>% who would learn new skills at own expense</u>	<u>% who would relocate</u>
Managerial	75%	87%
Foremen	62%	78%
Skilled Production	51%	66%
Semi-skilled Production	36%	51%
Skilled Trades	<u>43%</u>	<u>53%</u>
TOTAL	47%	61%

The rank order and relative differences on the two variables are remarkably uniform. Those who have had the most training in the past (managers, foremen, skilled production and trades) are more likely to learn new skills at their own expense. The same can be said for those who would accept a transfer. The skilled trades on both variables are closer to the semi-skilled production group than the skilled production category. Perhaps because their own trades are in demand across industries, they are less likely to feel the need of learning new skills for one particular job, and less likely to accept relocation.

The relationship is reduced but still remains when we control for age and education, with the young and better educated slightly more ready to learn new skills.

The worker's perceived relation to technology relates moderately to readiness to retrain ($V=.103$) (Table 50). As can be expected on the basis of occupational skill, the semi-skilled (assembly linemen and machine operators not requiring much skill) are lower than the others on retraining at

TABLE 50

READINESS TO UNDERTAKE RETRAINING
BY RELATIONSHIP TO TECHNOLOGY
(in percentages)

RELATIONSHIP TO TECHNOLOGY	Percentage saying they would:				No. of cases
	Take a course at own expense	Take a course if management pays cost	Prefer not to retrain	Total	
Continuous automatic process	37.8%	61.5%	0.7%	100.0%	447
High skilled tools	50.7	46.6	2.7	100.0	476
High skilled machine operation	51.0	45.8	3.2	100.0	555
Low skilled machine tending	41.6	52.8	5.6	100.0	125
Assembly line	40.3	57.1	2.6	100.0	251
Not production worker	55.2	45.4	5.4	100.0	845
TOTAL	48.0	49.2	2.8	100.0	
No. of cases	1287	1316	76		2679

No. of non-responses = 156

Cramer's V = .105

their own expense. There is one exception to this. The skilled continuous process operators rank lowest on willingness to take a course at their own expense. The fact that they also rank highest on "take a course if management pays" indicates that this is probably a result of the proliferation of management-sponsored training programs in the Oil industry during the past few years, as management has increasingly recognized an obligation in this respect. The relationship remains when age, atmosphere and education are introduced as controls. However, as we saw earlier, age and education do make some difference, with the younger and the higher educated being more likely to retrain at their own expense.

The relationship between the worker's relation to technology and readiness to relocate is also fairly weak ($V=.077$).

The semi-skilled machine operators and assembly linemen are more inclined to resist relocation with 12% and 13%, respectively, indicating they would rather quit their jobs than transfer, compared to a range from 6% to 9% for the other categories.

Although there is a slight tendency for management, supervisors and tradesmen to show less readiness to accept job satisfaction costs of change and for semi-skilled production workers to be more ready, the differences are too small to warrant extensive interpretation.

On the whole, there are some interesting differences in the attitudes of different occupational groups to industrial change and its concomitants. As one would have predicted, managers and foremen stand out consistently as more favourable to the various aspects of industrial change. It is also significant that for the remaining categories the relatively unskilled

perceive the greatest negative impact of the actual change. When interpreting the findings by industry in this study, it is important to remember that the composition of occupational level as well as relation to technology differ by industry. In fact, our comparison of industries is based on the assumption that these differences are major factors in accounting for the difference in perceptions and evaluations of an actual change event, and in attitudes to change which were analyzed in Chapters II and III, respectively.

CHAPTER VI

THE WORKER'S RELATION TO HIS COMPANY

The worker's relationship to the company is a crucial factor in determining his orientations to industrial changes. In this chapter we examine three different aspects of this relationship which we consider to be of particular importance:

1. The worker's relationship to the company as a whole, how he perceives this relationship, how he evaluates the company, and how he sees the business prospects of the company. Under this heading we shall also examine his length of service with the company.
2. The worker's perceptions of management and supervision and evaluation of the decision-making process in the firm.
3. The worker's evaluation of the communication system in the firm.

A. THE COMPANY AS A WHOLE

1. Length of Service

One of the more important factors that might influence a man's relation to the company for which he works is his length of service with the company. One would expect that the longer the service the more likely the worker will be to develop a vested interest in his job and the company and to perceive and evaluate the company in positive terms.

There were wide differences in our sample on length of service (Table 51). In Chemicals and Oil, over 70% have been with the company for more than 15 years. In Electrical Products and Steel, 57% and 60%, respectively, have had this much service. Printing and Automobiles have substantially lower proportions of 15-year employees with 37% and 24%, respectively.

If we look at the other end of the distribution, at the proportions having three or less years with the company, we find a somewhat different order. Steel has the lowest proportion of workers with only three years or less service (5%), followed by Oil and Chemicals. Oil and Chemicals, which had the largest proportions of workers with over 15 years of service, both have less than 10% in this category. Automobiles, with the lowest proportion with over 15 years service, has 12% in this category. The largest proportions with short service are found in Printing, which also had the second lowest proportion with long service, and in Electrical Products (23% and 16%, respectively).

On the basis of both categories of services, longest and shortest, we can group the industries in pairs of closely comparable periods of service: Chemicals and Oil with the longest, Steel and Electrical Products with medium

TABLE 51

LENGTH OF SERVICE WITH COMPANY BY INDUSTRY
(in percentages)

<u>INDUSTRY</u>	<u>Percentage reporting:</u>				<u>Total</u>	<u>No. of cases</u>
	<u>Three yrs. and less</u>	<u>More than three to nine yrs.</u>	<u>More than nine to 15 years</u>	<u>Over 15 years</u>		
Automobiles	12.0%	24.8%	39.4%	25.8%	100.0%	500
Chemicals	8.6	10.3	5.5	75.6	100.0	290
Electrical	16.2	22.6	4.6	56.6	100.0	452
Oil	7.5	7.8	13.1	71.6	100.0	536
Printing	22.8	20.3	20.1	36.8	100.0	666
Steel	4.8	18.1	16.8	60.3	100.0	575
TOTAL	15.1	17.8	17.8	51.4	100.0	
No. of cases	908	501	501	1449		2819

No. of non-responses = 13

length of service, and Printing and Automobiles with shortest length of service. We shall try to keep this order in mind when we compare industries on other variables.

2. Size of Plant

In order to examine the effect of plant size on attitudes and reactions to change, we classified the plants into four categories by size:

1. Less than 500 employees: this category includes three Printing firms, four small Oil plants and one Electrical Products plant.
2. 500 to 999 employees: includes two Chemical plants and one Printing firm.
3. 1,000 to 5,000 employees: includes one Automobile plant, a Printing firm and an Oil plant.
4. 5,000 or more employees: includes an Automobile plant, an Electrical Products plant, and the Steel plant.

Although each industry is not represented in each category of size, this classification allows us to look at the problem of technological change in terms of plant size, which we expect to be a fairly important factor in the worker's relationship to his company (or plant) and his disposition regarding change.

3. Perceived Relationship to Company

In order to get some idea of the workers' perceptions of their relationships to the company we asked them the following question:

Q. 103 Which one of the following factors would you say is most important to you in your relationship to your Company?

- a) The material benefits I get from my job (such as pay, security, etc.)
- b) My relationships and loyalty to the men who work with me and the Company itself.

- c) The sense of fulfillment and accomplishment I get from my job itself, quite apart from such things as security and wages.
- d) The feeling of being a part of a concern that is trying to achieve certain goals and that I am contributing to reaching these goals.

Alternatives a) and c) reflect a self-orientation, a concern with personal matters; a) being concerned with elements of extrinsic job satisfaction such as pay and other benefits, c) being designed to tap intrinsic satisfaction with the job such as the feeling of accomplishment it provides. Alternatives b) and d) reflect a social or company orientation; in the case of b) in terms of loyalty to the company and fellow workers and in d) in terms of identification with the goals of the company.

Except in Printing, the distribution in Table 52 does seem to be correlated with length of service with the company. One would expect that the second alternative--loyalty to the men and the company--would be something that would group with years of service. Among the four alternatives loyalty is the one in which the rank order of proportions among the industries is closely similar to that of years of service with the company. Chemicals and Oil have the largest proportions choosing this alternative; Printing and Automobiles the smallest.

In the proportions choosing the first alternative, material benefits, the rank order is also quite similar, except for Printing, which clearly stands out as a special case. On this alternative we expected that shorter service would be related to an emphasis on material benefits over other considerations, and this is clearly the direction of the rank order, although not for Printing.

TABLE 52

RESPONSES BY INDUSTRY TO THE QUESTION: WHICH ONE OF
THE FOLLOWING FACTORS WOULD YOU SAY IS MOST IMPORTANT
TO YOU IN YOUR RELATIONSHIP TO YOUR COMPANY?

(in percentages)

Percentage saying:

INDUSTRY	Percentage saying:				No. of cases
	Material benefits	Relation- ships and loyalty	Sense of accomplish- ment	Contribut- ing toward goals	
Automobiles	70.4%	5.6%	11.3%	12.7%	496
Chemicals	53.7	12.5	14.9	18.9	281
Electrical	58.7	8.5	13.6	19.2	447
Oil	57.5	10.2	12.6	19.7	532
Printing	52.7	7.6	18.0	21.7	660
Steel	67.0	9.6	10.1	13.3	376
TOTAL	59.7	8.6	13.7	17.9	100.0
No. of cases	1666	241	385	500	2792

No. of non-responses = 40

Cramer's V = .089

With respect to the third alternative, a sense of accomplishment, we expected that it would be preferred more often by workers in industries with technologies requiring skill and craftsmanship. Here, therefore, Printing should have the highest proportions of preferences, as it does (18%). We would rank the continuous process industries, Oil and Chemicals, next on the basis of Blauner's findings that workers in this type of industry are less alienated than those in assembly line type industries. The Electrical Products plants included in this sample utilize machine tools manned by fairly highly skilled workers. We would expect, therefore, that they would also be fairly high in a sense of accomplishment. The actual order is Chemicals, Electrical Products and Oil, but the differences are only about one percentage point. We expected Automobiles to be the lowest, while Steel, with its mixed technology and relatively low skilled production, was expected to be somewhat higher than Automobiles. Although the order between these two is reversed, the difference is very small.

The fourth alternative is, in a sense, the collective counterpart of the third. Identification with the goals of the company, in part, means getting a sense of accomplishment out of what the company is doing. Except for the reversal in Steel and Automobiles, which, as stated above, could be expected, the rank order is identical for the third and fourth alternatives.

4. Evaluation of the Company

The worker's evaluation of his company as a place to work and his perception of the interest the company takes in workers as people should be of some importance in his readiness to accept the consequences of change and his perception and evaluation of specific change events.

We asked the following two questions:

Q. 97 How do you think your firm or company compares with others as a place to work?

It is a better place to work than most.

It is about as good as most.

It is a worse place to work than most.

Q. 99 Do you feel your firm is more interested in cutting costs than it is in the people who work for the Company?

The Company is much more interested in cutting costs than in its people.

Somewhat more interested in cutting costs than in its people.

Equally interested in both.

Somewhat more interested in its people than it is in cutting costs.

The Company is much more interested in its people than it is in cutting costs.

As can be seen in Table 53, very few workers think their company is worse than most. A very clear ranking of the companies by industry is evident, however, in the differences between the proportions saying the company is better than most. In Oil and Printing the majority of respondents say their company is better than most (62% and 55%, respectively). Electrical Products is next with 46%, followed by Steel with 32%, saying their company is better than most. In Automobiles, 29% give this response while the smallest proportion is in the Chemicals with only 23% saying their company is better than most. If we take into account the proportions saying the company is worse than most, the order for Chemicals and Automobiles is reversed because the latter has 14% giving the "worse" response as compared to only 3% in the former.

Next we consider the workers' perception of the extent to which their company is more interested in cutting costs than in its people. The

TABLE 53

RESPONSES BY INDUSTRY TO THE QUESTION: HOW
DO YOU THINK YOUR FIRM OR COMPANY COMPARES
WITH OTHERS AS A PLACE TO WORK?
(in percentages)

<u>INDUSTRY</u>	<u>Percentage saying:</u>			<u>Total</u>	<u>No. of cases</u>
	<u>Better than most</u>	<u>As good as most</u>	<u>Worse than most</u>		
Automobiles	29.3%	56.4%	14.3%	100.0%	498
Chemicals	22.9	74.0	3.1	100.0	288
Electrical	46.3	51.5	2.2	100.0	449
Oil	62.0	37.1	0.9	100.0	533
Printing	54.5	42.5	3.0	100.0	664
Steel	<u>32.2</u>	<u>64.1</u>	<u>3.7</u>	<u>100.0</u>	<u>376</u>
TOTAL	43.9	51.5	4.6	100.0	
No. of cases	1233	1446	129		2808

No. of non-responses = 24

Cramer's = .240

proportions saying the company is equally interested in both, or more interested in people, fall in a rank order close to those saying their company is a better place to work, with the exception of Chemicals where twice as large a proportion say their company is equally or more interested in people (Table 54). Printing and Oil are again the only two cases with over 50% giving the positive response, although here the order between the two is reversed with Printing having the largest proportion indicating an interest in workers as people on the part of their companies.

The size of the plant does seem to be related to these evaluations. Automobiles, Steel and Electrical Products comprise the three plants with over 5,000 workers, although the former two categories also include one smaller plant each. These three do have the lowest proportions indicating an interest in people on the part of the company. Also, the small firms included in the sample are almost all in Printing and Oil.

5. Perception of Modernity and Business Outlook of Company

The general economic outlook for an industry or a particular firm might be a factor of considerable importance in workers' reactions to change. Objectively we have classified the firms into two categories with Chemicals, Electrical Products and Steel having, on the whole, an unfavourable economic outlook, while Oil, Printing and Automobiles were classified as having a favourable outlook. This classification is somewhat arbitrary in that it was based on impressions in informal interviews with management rather than on hard statistics of ups and downs in production and profits.

We also asked two questions in the questionnaire which we hoped would reflect the worker's perception of the economic outlook for his company:

TABLE 54

RESPONSES BY INDUSTRY TO THE QUESTION: DO YOU FEEL
YOUR FIRM IS MORE INTERESTED IN CUTTING COSTS THAN
IT IS IN THE PEOPLE WHO WORK FOR THE COMPANY?

(in percentages)

Percentage saying:

INDUSTRY	Percentage saying:				Total	No. of cases
	More in cutting costs than in people	Somewhat more in cutting costs than in people	Equally interested in both	Somewhat more in people than in cutting costs		
Automobiles	47.8%	22.2%	29.2%	0.4%	100.0%	500
Chemicals	28.6	27.9	59.7	3.1	100.0	287
Electrical	30.3	30.7	57.9	0.7	100.0	449
Oil	16.3	27.4	49.9	4.9	100.0	535
Printing	16.6	22.3	53.1	5.0	100.0	663
Steel	38.2	30.9	30.1	0.8	100.0	370
TOTAL	28.4	26.3	41.3	2.7	100.0	
No. of cases	798	759	1161	76	34	2808

Cramer's V = .160

No. of non-responses = 24

Q. 84 Do you think that business for your company will be better or worse in the next few years than it is now?

Business will be a lot better.

Somewhat better.

About the same as now.

Somewhat worse.

Business will be a lot worse.

Q. 98 As compared to other firms in the industry, do you think your firm is:

One of the most modern firms in this industry.

More modern than most.

Less modern than most.

One of the most backward firms in the industry.

In the total sample, 33% think that business will be a lot better for their companies while another 40% say somewhat better (Table 55). On the question of modernity, 35% say their company is one of the most modern with another 49% saying it is more modern than most (Table 56). Thus, the proportions are quite comparable, although a little higher on the question of modernity.

When we compare the proportions from the different industries saying their company's business will be a lot better with those saying it is one of the most modern, exactly the same rank order among the industries emerges, with the proportions themselves quite comparable. In Oil more than 50% give each of these two responses (58% and 51%, respectively) followed by Automobiles with about 40% giving the same responses (38% and 42%, respectively) and Printing with 32% and 35%, respectively. On the other side, Chemicals has the smallest proportions in both categories (15% and 10%, respectively), followed by Electrical Products (19% and 29%, respectively) and Steel (24% and 32%, respectively). This order is obviously quite different from the one obtained in the workers' evaluation of the company as a place to work and its interest in workers as people.

TABLE 52

RESPONSES BY INDUSTRY TO THE QUESTION: DO YOU
THINK THAT BUSINESS FOR YOUR COMPANY WILL BE BETTER
OR WORSE IN THE NEXT FEW YEARS THAN IT IS NOW?
(in percentages)

Percentage saying:

INDUSTRY	Business will be lot better	Somewhat better	About same as now	Somewhat worse	A lot worse	Total	No. of cases
Automobiles	38.4%	38.2%	18.4%	4.6%	0.4%	100.0%	500
Chemicals	14.6	39.4	24.0	17.8	4.2	100.0	287
Electrical	16.5	36.0	29.8	13.5	2.2	100.0	453
Oil	58.4	36.5	4.5	0.4	0.2	100.0	531
Printing	32.1	44.0	18.2	4.5	1.2	100.0	664
Steel	23.5	48.5	20.8	6.7	0.5	100.0	375
TOTAL	53.1	40.4	18.5	6.8	1.2	100.0	
No. of cases	929	1155	519	192	35		2810

No. of non-responses = 22

Cramer's V = .197

TABLE 56

RESPONSES BY INDUSTRY TO THE QUESTION: AS COMPARED TO
OTHER FIRMS IN THE INDUSTRY DO YOU THINK YOUR FIRM IS:

(in percentages)

Percentage saying:

<u>INDUSTRY</u>	<u>Percentage saying:</u>			<u>One of most backward</u>	<u>Total</u>	<u>No. of cases</u>
	<u>One of most modern</u>	<u>More modern than most</u>	<u>Less modern than most</u>			
Automobiles	41.6%	50.4%	7.6%	0.4%	100.0%	498
Chemicals	10.4	38.9	46.9	3.8	100.0	288
Electrical	29.2	51.4	17.4	2.0	100.0	448
Oil	50.7	40.4	8.1	0.8	100.0	530
Printing	25.4	52.9	10.0	1.7	100.0	663
Steel	31.8	59.3	7.8	1.1	100.0	374
TOTAL	25.4	49.3	13.9	1.5	100.0	
No. of cases	991	1380	289	41		2801

no. of non-responses = 31

Cramer's V = .222

The subjective perception by workers of the business image and outlook of their companies provides an order which coincides closely with our objective classification of the companies by industry.

6. Influence of Atmosphere on Worker's
Relationship to Company as a Whole

There are no particularly strong associations between any two of the above aspects of the worker's relationship to the company. The relationships that do exist are diminished when we control for perceived atmosphere. For example, the factors that the worker considers important in his relationship to his company are slightly related to plant size since 66% of those in the largest size plants say material factors are most important as compared to 60% for the total sample ($V = .075$). However, the relationship becomes weak and insignificant when we control for atmosphere in the plant. The type of relationship with the company is rather weakly related to perceived business outlook ($V = .078$). In this case it becomes very weak in an atmosphere of conflict, indicating again that the atmosphere of labour-management relations might be the more important factor especially if it is characterized by conflict. Economic outlook, as we define it, does not relate at all to factors important to the worker's relationship to his company.

Since the atmosphere of labour-management relations in the plant seems to have an important influence on the worker's relation to his company, we might examine it more closely here. The proportions saying there is an atmosphere of conflict in their plants are about the same for plants under 500 and for plants with 500 - 999 employees (29% and 30%, respectively). For plants with between 1,000 and 5,000 employees, however, the proportion reporting conflict is much smaller (19%), while for those with more than

5,000 employees it is very much larger (49%). The relationship is strong ($V = .242$) and remains strong when we control for age and education. It is interesting to note that one Automobile plant is in the category with the smaller percentage reporting conflict and the other is in the group reporting conflict most often.

Atmosphere is also associated with the factors the worker considers most important in his relationship to his company ($V = .160$). Those who perceive an atmosphere of conflict are more likely than those perceiving an atmosphere of co-operation to say that material factors are the most important and less likely to say that personal accomplishment and identification with the goals of the company are important.

The relationship of atmosphere to perceived business outlook of the company is also fairly strong ($V = .181$). A larger proportion of those who report conflict than of those who report co-operation expect their company's business to be the same or worse (36% as compared to 22%). Controls for age, education and income again do not affect the strength of this association.

These fairly strong relationships suggest that the atmosphere of labour-management relations is a very appropriate and powerful control, as its use in this chapter and the rest of the report demonstrates.

B. EVALUATION OF MANAGEMENT AND SUPERVISION

We asked respondents how well they feel their company is managed. In the total sample 25% say it is very well managed and 55% that it is fairly well managed, while 21% say it is not very or not at all well managed (Table 57).

TABLE 57

RESPONSES BY INDUSTRY TO THE QUESTION: HOW
WELL DO YOU FEEL YOUR FIRM IS MANAGED?

(in percentages)

Percentage saying:

INDUSTRY	Not well managed at all	Not managed very well	Fairly well managed	Very well managed	Total	No. of cases
Automobiles	5.2%	18.5%	49.1%	27.2%	100.0%	503
Chemicals	2.4	13.2	67.7	16.7	100.0	288
Electrical	8.1	18.9	51.2	20.9	100.0	449
Oil	2.8	6.6	58.6	32.0	100.0	552
Printing	9.2	14.0	52.2	24.6	100.0	662
Steel	5.6	20.5	55.1	18.9	100.0	376
TOTAL	5.7	15.0	54.8	24.6	100.0	
No. of cases	159	421	1539	691		2810

No. of non-responses = 22

Cramer's V = .124

Among the industries, the order of the proportions is about the same as for the business outlook and modernity of the firm, with a reversal of the rank for Steel and Electrical Products (based on less than 2% difference). The proportions saying their firm is "very well managed" range from 32% in Oil to 17% in Chemicals. It is interesting to note that the rank order is not the same as that for the evaluation of the firm as a place to work, but is the same as that for the perceived image and outlook of the firm. However, the difference should not be emphasized because it is only in Automobiles that the evaluation of the firm as a place to work is radically different from the perceived image and outlook of the firm.

In order to determine the decision-making structures of the firm in terms of participation on the part of lower-level management, workers and unions, we asked our respondents three questions:

Q. 104 How much influence do you and workers in general have on the way the plant or firm is run?

A lot.
Some.
Very little.
None.

Q. 113 Do you feel foremen in this firm are just doing what they are told and do not have much say in what should be done?

They have a great deal of say.
They have quite a bit of say.
They have some say.
They have a little say.
They have very little or no say at all.

Q. 124 How much say does the union have in how this firm is run?

Very much.
Quite a bit.
Some.
Very little.
My firm is not unionized.

The rank order for the second question (the decision-making role of the foremen) does not resemble any of the other variables already discussed, except for the evaluation of the firm as a place to work, and even for this the correlation is only in terms of upper half and lower half of the order. The same three industries, Oil, Electrical Products and Printing, fall in the upper half with the largest proportions saying their firm is a better place to work and that foremen have a lot to say in how the firm is run, while the other three fall in the lower half (Table 58). This might indicate a relationship between these two variables, but we have not been able to examine it closely enough.

The interesting feature of Tables 59 and 60 is in a comparison of the proportions in each industry saying the workers have "a lot" or "some" influence and that unions have "quite a lot" or "very much" to say in how the firm is run. If we rank the industries on these two categories, the order for worker influence is exactly the reverse of that for union power. In those industries where the larger proportions say the union has much to say, a smaller proportion say the workers have much influence. We have eliminated the non-unionized firms in calculating the proportions of those saying the union has a lot of say but have not done so for workers' influence where it should not make a difference. The fact that Oil and Printing, the two industries with large proportions of workers in non-unionized firms, have the highest and lowest proportions on both variables seems to confirm this.

Another interesting observation is that if we add the proportion saying the workers have much say and the proportion saying the union has much say, in each industry, the differences among the industries disappear to a

TABLE 58

RESPONSES BY INDUSTRY TO THE QUESTION: DO YOU FEEL
FOREMEN IN THIS FIRM ARE JUST DOING WHAT THEY ARE
TOLD AND DO NOT HAVE MUCH SAY IN WHAT SHOULD BE DONE?
(in percentages)

INDUSTRY	Percentage saying:					Total	No. of cases
	Great deal of say	Quite a bit of say	Some say	Little say	Very little or no say		
Automobiles	5.0%	9.3%	23.2%	29.0%	33.5%	100.0%	496
Chemicals	5.0	15.2	41.2	20.9	17.7	100.0	282
Electrical	8.2	16.6	35.7	22.1	17.4	100.0	453
Oil	8.5	22.6	40.1	16.9	11.9	100.0	531
Printing	5.6	16.3	43.5	21.9	12.7	100.0	661
Steel	4.9	12.9	39.1	26.4	16.7	100.0	371
TOTAL	6.3	15.7	37.2	22.8	18.0	100.0	
No. of cases	176	440	1058	656	504		2794

No. of non-responses = 38

Cramer's V = .129

TABLE 29

RESPONSES BY INDUSTRY TO THE QUESTION: HOW MUCH INFLUENCE DO YOU AND WORKERS IN GENERAL HAVE ON THE WAY THE PLANT OR FIRM IS RUN?

INDUSTRY	Percentage saying:			No. of cases
	A lot	Some	Very little	
Automobiles	9.2%	27.0%	37.0%	500
Chemicals	9.4	39.9	36.5	286
Electrical	8.5	34.4	38.8	448
Oil	12.1	37.2	38.7	535
Printing	5.0	29.0	42.2	663
Steel	9.1	28.8	41.3	375
TOTAL	8.7	32.1	39.4	
No. of cases	243	903	1106	2609

Cramer's $V = .097$

TABLE 60

RESPONSES BY INDUSTRY TO THE QUESTION: HOW MUCH
SAY DOES THE UNION HAVE ON HOW THIS FIRM IS RUN?
(in percentages)

INDUSTRY	Percentage saying:				Total	No. of cases
	Very much	Quite a bit	Some	Very little		
Automobiles	3.8%	21.1%	38.0%	28.7%	100.0%	498
Chemicals	1.1	10.6	36.9	38.3	100.0	282
Electrical	2.9	18.6	38.8	31.9	100.0	451
Oil	0.9	9.6	33.8	37.3	100.0	228
Printing	5.3	21.1	37.1	23.2	100.0	375
Steel	2.7	20.6	41.7	30.5	100.0	374
TOTAL	3.0	18.0	38.0	30.8	100.0	
No. of cases	67	397	840	681		2208

No. of non-responses = 624

Cramer's V = .103

remarkable extent. For five of them, the total saying either of these two things ranges between 61% and 62%, a difference of less than 1%. Only Electrical Products with 64% falls outside this range, making the total range a little over 3%. Hence we have to conclude that there is no overall difference among the industries in terms of participation of the workers in the decision-making process of the firm, whether this participation is through unions or unorganized.

The supervision system, as distinguished from the decision-making process, is another aspect of the company with which the worker is in close contact. The atmosphere of supervision has been found to influence morale and attitudes in general to a considerable degree. We asked several questions in order to assess the differences in supervisory systems in the firms. The following two questions are samples of these:

Q. 108 When your foreman wants you to do something, how does he usually let you know what is wanted?

Simply tells me.
Asks me if I will.
Explains to me why he wants it.

Q. 110 Does your foreman supervise you closely or does he leave you much on your own?

He supervises very little; I am definitely on my own.
A little supervision; I am pretty much on my own.
A moderate amount of supervision.
Fairly close supervision.
He supervises very closely; he does not leave me on my own.

In the total sample almost 75% say they are definitely on their own or pretty much on their own and only 6% indicate fairly or very close supervision (Table 61). Supervision appears to be the closest in Automobiles

TABLE 61

RESPONSES BY INDUSTRY TO THE QUESTION:
DOES YOUR FOREMAN SUPERVISE YOU CLOSELY
OR DOES HE LEAVE YOU MUCH ON YOUR OWN
(in percentages)

Percentage saying:

INDUSTRY	On my own	Supervises little	Moderate super- vision	Fairly close super- vision	Very close super- vision	Total	No. of cases
Automobiles	25.8%	44.3%	17.8%	10.1%	2.0%	100.0%	493
Chemicals	23.5	51.9	19.2	4.3	1.1	100.0	281
Electrical	31.5	49.7	14.1	4.2	0.7	100.0	453
Oil	26.1	47.6	24.2	1.5	0.6	100.0	552
Printing	29.8	46.7	16.5	5.9	1.1	100.0	660
Steel	23.7	50.2	18.6	6.2	1.3	100.0	571
TOTAL	24.2	47.9	18.4	5.4	1.1	100.0	
no. of cases	759	1537	513	151	31		2791

No. of non-responses = 41

Cramer's V = .080

where 70%, the lowest proportion among the industries, indicate little or no supervision and 12% fairly or very close supervision. Electrical Products report the least supervision (81% and 5%, respectively). Apart from these two extremes, there does not seem to be a wide variation among the industries on the closeness of supervision.

There are more substantial differences in the manner of supervision (Table 62). In the total sample 43% indicate the supervisor simply tells them what to do, 31% say he asks them to do what he wants, and 26% report that the supervisor explains why he wants them to do something. If we refer to the "simply tells me" type of supervision as direct and the "ask if I will" and "explain why" categories as indirect, the differences among the industries can be more economically summarized. Supervision is mostly direct in Steel and Automobiles with 52% and 50%, respectively, saying they are simply told what to do. It is least direct in Oil and Chemicals with only 33% and 35% saying they are simply told, and somewhat less direct in Electrical Products than in Printing (39% compared to 44%).

These differences seem to relate fairly closely to the type of technology of the industry. In Automobiles, with its semi-skilled assembly line technology, and in Steel, with its largely semi-skilled and mixed technology, we would expect more direct and closer supervision. On the other hand, in Oil and Chemicals, continuous process industries, we would expect loose and indirect supervision—and both have substantially larger proportions saying their supervisors explain to them why they have to do something. Electrical Products, a fairly highly skilled machine tool industry, would be expected to fall in between. The exception that is difficult to explain is Printing, which is a craft industry. We would have expected fairly loose and indirect

TABLE 62

RESPONSES BY INDUSTRY TO THE QUESTION: WHEN
YOUR FOREMAN WANTS YOU TO DO SOMETHING, HOW
DOES HE USUALLY LET YOU KNOW WHAT IS WANTED?
(in percentages)

Percentage saying:

<u>INDUSTRY</u>	<u>Simply tells me</u>	<u>Asks if I will</u>	<u>Explain why</u>	<u>Total</u>	<u>No. of cases</u>
Automobiles	50.2%	27.3%	22.5%	100.0%	498
Chemicals	50.2	31.5	32.3	100.0	279
Electrical	59.2	37.4	23.4	100.0	449
Oil	59.2	28.5	38.5	100.0	550
Printing	44.0	34.4	21.6	100.0	557
Steel	<u>51.9</u>	<u>27.8</u>	<u>20.3</u>	<u>100.0</u>	<u>574</u>
TOTAL	42.6	31.5	26.2	100.0	
No. of cases	1106	672	729		2407

No. of non-responses = 45

Cramer's V = .126

supervision in Printing, not very different from Oil and Chemicals. Although it ranks second in looseness, it ranks fourth in indirectness. As yet, we have no adequate interpretation for this finding.

C. COMMUNICATION WITHIN THE COMPANY

The flow of information in an organization must be analyzed separately from both the decision-making process and the supervision process. We included a few questions to find out where the workers get their information and how satisfied they are with it:

Q. 114 From where do you get information about what is going on in your firm? (Check as many as apply to you).

From a separate information department
(publishing magazines, bulletins, etc.)
Through the local union officers.
From the supervisor.
Directly from management.
From the men with whom you work.
I do not get any information.

Q. 115 How satisfied are you with the amount of information you get about what is going on in your Company?

Not very satisfied.
Somewhat satisfied.
Fairly satisfied.
Very satisfied.

Q. 116 Do you receive information in advance about any changes that affect you or your work?

Always.
Usually.
Seldom.
Never.

We coded the responses to the question on where they get information into three categories and "no information". When the respondent checked

one or more of "a separate information department", "the supervisor", and "management", his response was coded as "formal sources only". If he checked "local union officials" or "men with whom you work", or both, his response was coded as "informal sources only". If he checked any combination of these two categories, his response was coded as both "formal and informal". As Table 63 shows, 26% in the total sample indicate they receive information from "formal sources only", 13% from "informal sources only", and 58% from both, while only 4% say they receive no information. Oil has the highest proportion (30%) reporting "formal sources only", followed by Chemicals and Printing (28% and 27%, respectively). Steel has the lowest proportion, followed by Automobiles (19% and 24%, respectively). The order among the industries is very close to a reverse order of that for the directness of supervision. The more indirect they perceive the supervision system to be, the more likely they are to report reliance on formal sources of information. Hence the order here shows the same relation as indirectness of supervision to the technological differences among the industries as outlined above.

Steel, Printing and Electrical Products rank highest on informal sources of information, followed by Automobiles, Chemicals and Oil (ranging from 26% to 8%). The proportions here are smaller but they do seem to indicate a degree of lack of communication in the formal structure of the firm. This is somewhat substantiated by the fact that there is a reverse relationship between the two rankings for "formal sources only" and "informal sources only" (except for Printing). There is no intrinsic reason why this should be the case. There are only small differences among the proportions reporting a mixture of sources.

TABLE 62

RESPONSES BY INDUSTRY TO THE QUESTION:
FROM WHERE DO YOU GET INFORMATION ABOUT
WHAT IS GOING ON IN YOUR FIRM?
(in percentages)

INDUSTRY	Percentage saying:				Total	No. of cases
	No information	Formal sources within company	Informal sources outside management	Formal and informal sources		
Automobiles	4.8%	23.9%	10.9%	60.4%	100.0%	503
Chemicals	5.2	27.6	9.3	57.9	100.0	290
Electrical	4.0	24.8	11.9	59.3	100.0	455
Oil	1.9	30.0	7.1	61.0	100.0	538
Printing	3.9	26.5	18.1	51.5	100.0	668
Steel	6.1	19.4	17.8	56.7	100.0	377
TOTAL	4.1	25.6	12.8	57.5	100.0	
No. of cases	116	125	362	1628		2831

No. of non-responses = 1

In the total sample 67% say they "always" or "usually" receive information in advance of changes affecting them (Table 64). Among the industries, the proportion ranges from 80% in Oil to 54% in Automobiles. Chemicals has the second highest proportion (74%) while Electrical Products, Printing and Steel have virtually the same proportion giving the same response.

On the question of satisfaction with the information they receive, 53% in the total sample indicate that they are fairly or very satisfied (Table 65). Oil and Automobiles again show the highest and lowest proportions, respectively, in indicating satisfaction (68% and 45%), with Steel (44%) virtually the same as Automobiles. In Printing, Chemicals and Electrical Products the proportion giving this response is about the same (52%, 51%, 51%).

This order of satisfaction seems closely related to the order of the proportions relying on formal sources of information only and that of perceived adequacy of advance notice of change.

D. RELATIONS TO COMPANY, PERCEPTIONS OF ACTUAL
CHANGE, AND READINESS TO ACCEPT COSTS OF CHANGE

We now turn to an analysis of the influence various aspects of the worker's relationship to his company have on his perceptions and evaluation of the specific change event and his readiness to accept specified consequences of change. We selected four aspects for this analysis: the size of the plant, the perceived business outlook of the plant, evaluation of the company, and the manner of supervision. These factors relate to many other aspects of the internal structure of the company and should provide some insight into this complex area.

TABLE 64

RESPONSES BY INDUSTRY TO THE QUESTION: DO
YOU RECEIVE INFORMATION IN ADVANCE ABOUT
ANY CHANGES THAT AFFECT YOU OR YOUR WORK?
(in percentages)

Percentage saying:

INDUSTRY	Percentage saying:				Total	No. of cases
	Always	Usually	Seldom	Never		
Automobiles	13.0%	40.8%	32.0%	14.2%	100.0%	494
Chemicals	20.4	53.7	18.2	7.7	100.0	285
Electrical	11.3	53.7	24.8	10.2	100.0	452
Oil	20.6	59.7	16.5	3.2	100.0	533
Printing	12.8	51.1	28.9	7.2	100.0	664
Steel	16.1	48.7	26.3	8.9	100.0	372
TOTAL	15.3	51.3	25.0	8.4	100.0	
No. of cases	428	1436	700	236		2800

No. of non-responses = 32

Cramer's V = .118

TABLE 65

RESPONSES BY INDUSTRY TO THE QUESTION: HOW SATISFIED
ARE YOU WITH THE AMOUNT OF INFORMATION YOU GET ABOUT
WHAT IS GOING ON IN YOUR COMPANY?
(in percentages)

INDUSTRY	Percentage saying:				Total	No. of cases
	Not very satisfied	Somewhat satisfied	Fairly satisfied	Very satisfied		
Automobiles	51.4%	23.3%	39.0%	6.3%	100.0%	494
Chemicals	29.9	19.0	45.1	6.0	100.0	284
Electrical	26.5	20.8	42.7	8.0	100.0	452
Oil	14.4	17.8	47.7	20.1	100.0	533
Printing	26.4	21.9	42.5	9.2	100.0	662
Steel	31.7	23.9	38.8	5.6	100.0	372
TOTAL	26.4	21.2	42.7	9.8	100.0	
no. of cases	759	592	1193	273		2797

no. of non-responses = 39

Cramer's V = .124

1. Perception and Evaluation of Change Event

None of the factors discussed above show a significant relationship to the worker's perception of the radicalness of the change, or the difference it made in his own work. However, two of these factors, namely the evaluation of the company and the manner of supervision, do relate to the index measuring the impact of the change on job satisfaction. Two items were selected as aspects of the respondents' evaluation of the company--whether the company is a better or worse place to work than most (E-97) and whether the company is more interested in cutting costs than in its people (E-99). Both of these factors were fairly strongly related to evaluation of the impact of the change on job satisfaction. Of those who said that their company is better than most, 19% report a positive impact compared to only 4% of those who think that their company is worse ($V=.156$). Similarly, 21% of those who say that their company is much more interested in people over costs report a positive impact, compared to only 10% of those who say that the company is more interested in costs over people ($V=.153$). Controls for age, education and atmosphere do not alter the strengths of these relationships.

Manner of supervision is weakly related in the expected direction to the impact of change on job satisfaction ($V=.096$). Eleven per cent of those respondents who are "told" what to do have a positive impact score, and 19% of those who have things "explained" to them have a positive impact score.

The worker's evaluation of the way the change was handled by the company (as indicated by reported adequacy of information) with one exception is influenced quite strongly by the above aspects of his relationship

to the company. The exception is plant size which is only weakly related to adequacy of information ($V = .075$).

The perceived business outlook of the company is fairly strongly associated with adequacy of information in the expected direction ($V = .131$). Those seeing bright prospects for their company are somewhat more likely to say information was adequate than those who think business will be the same or worse (68% as compared to 51%). This association is not affected by age and education but it becomes weak in an atmosphere of conflict ($V = .102$). Since those perceiving conflict are more likely to see bleak prospects for their company, we can be fairly sure that this relationship of business outlook to adequacy of advance notice is an artifact of the influence of the atmosphere on business outlook.

The third aspect—evaluation of the company—is fairly strongly related to perceived adequacy of information. Workers who say that their company is better than most ($V = .123$) and who say that their company is more interested in people versus costs ($V = .149$) are more likely to say that advance information about change was adequate. For example, 62% of those who say the company is more interested in people say that they received adequate information, while 50% of those who say the company is more interested in costs give this response.

The manner of supervision is also fairly strongly related to the workers' evaluation of the adequacy of information ($V = .122$). Those who say they are simply told by their supervisors what to do are more likely to indicate that information was inadequate than those who report that their supervisors explain why they should do something. Of the former, 33% give

this response as compared to only 17% of the latter (Table 66). Control for atmosphere, age and education does not alter the strength of this relationship very much.

2. Readiness to Accept Specified
Consequences of Change

The effect of the aspects of the worker's relationship to his company on his readiness to accept the consequences of change can be summarized as follows. All four of the company factors are only very weakly related to readiness to retrain. However, plant size and evaluation of the company are moderately related to the other three aspects of readiness (dislocation, relocation, and personal costs in terms of job satisfaction) while business outlook and manner of supervision are only very weakly related.

Size of plant is consistently and with about the same strength related to readiness to accept dislocation ($V=.113$), to accept relocation ($V=.115$), and to accept the personal costs of change in terms of job satisfaction ($V=.119$). In all cases workers in the smaller plants are more likely to accept the consequences of change than those in larger plants, with the exception of readiness to accept job satisfaction costs where workers in plants with under 500 employees are less likely to accept. Those in plants with 500 - 999 workers, which includes the two Chemical plants and one Printing firm, are consistently more likely to accept the consequences of change. Since Chemicals and Printing rank high in these readiness measures, this finding is not surprising. Similarly, the fact that those in large plants are less likely to accept the consequences of change could be gathered from the ranking of Steel and Automobiles on these measures, although the inclusion of Electrical Products could be expected to make a

TABLE 66

ADEQUACY OF INFORMATION
BY MANNER OF SUPERVISION
(in percentages)

Percentage indicating:

<u>PERCENTAGE</u> <u>INDICATING</u>	<u>Low</u> <u>infor-</u> <u>mation</u> <u>(3-5)</u>	<u>Medium</u> <u>infor-</u> <u>mation</u> <u>(6)</u>	<u>High</u> <u>infor-</u> <u>mation</u> <u>(7-9)</u>	<u>Total</u>	<u>No. of</u> <u>cases</u>
Simply tells me	33.4%	10.0%	56.6%	100.0%	1187
Asks if I will	26.7	10.1	63.2	100.0	872
Explains why	<u>16.6</u>	<u>6.7</u>	<u>76.7</u>	<u>100.0</u>	<u>729</u>
TOTAL	26.9	9.2	63.9	100.0	
No. of cases	751	256	1781		2788

No. of non-responses = 44

Cramer's V = .122

difference. All these relationships are not affected by controls for age, education and atmosphere.

Evaluation of the company is also consistently related to readiness to accept specified consequences of change. The strength of the relationships for both aspects of evaluation of the company are similar and, in general, slightly less than that of size of plant. Thus, whether the company is perceived as better or worse than most is moderately related to readiness to accept dislocation ($V = .116$), and to accept relocation ($V = .105$), and to accept personal costs in terms of job satisfaction ($V = .088$). Similar levels hold for whether the company is more interested in costs over people as it related to acceptance of dislocation ($V = .088$), relocation ($V = .102$) and personal costs ($V = .101$). In all cases those who have a high evaluation of the company show a greater readiness to accept the specified consequences of the changes.

In summary, we can point out that plant size, evaluation of the company and, to a lesser extent, manner of supervision, appear to be important factors in workers' perception and evaluation of the actual change event. But, of the four aspects of the workers' relationship to his company, only plant size and evaluation of the company show a significant association with readiness to accept specified consequences of change. It is, however, not possible to claim that we have been able to separate plant size from a host of other factors seemingly relevant and significantly different for the four categories of the size. It is not sufficiently independent from industry as a variable, for example. So we might have nothing more than further evidence that there are significant differences among the industries with respect to technological change.

CHAPTER VII

LABOUR-MANAGEMENT RELATIONS, UNIONS AND CHANGE

This project is directly concerned with labour organization and labour-management relations only in so far as they form part of the structural setting within which industrial change takes place. Our main concern is to find out how labour organization and differences in labour relations affect change and attitudes to change. In this chapter we will consider the influence of some aspects of the labour relations system on change in industry. We shall deal with union membership and participation, the evaluation by workers of the performance of local union officers and unions in general, and the atmosphere of labour-management relations in the firm. Finally, we examine the differences between unionized and non-unionized firms, participants and non-participants in union meetings, and union officials and non-officials in perceptions of and attitudes toward change.

A. UNION MEMBERSHIP, OFFICE HOLDING AND PARTICIPATION

All but 41 respondents answered the question on union membership. Of these, 64% report membership, while 36% say they are not members. Oil and Printing reflect the inclusion of non-unionized firms by showing only 29% and 54% membership, respectively. In the other industries non-members were

mostly supervisors and managers. In Chemicals the percentage of non-members was about twice that of the other unionized industries (32%), reflecting an over-representation of supervisors and managers in that sample.

Of the 2,643 respondents who answered the question on whether they had ever held a union office, 22% indicate that they have done so once or more (Table 67). The only industries in which there are substantially different rates from the average are Automobiles with only 14% and Electrical Products with 31% reporting previous office-holding.

The question on attendance at union meetings did not contain an alternative where the respondent could indicate that his firm is not unionized or that he is not a member of a union. Consequently 583 respondents left the question blank. On a previous question 994 had indicated that they were not members of a union. This might mean that some 400 non-union respondents answered this question by choosing the alternative "I attended none" of the three last meetings of the union, which would inflate the proportion indicating non-attendance by about one third.

We can correct this to some extent by going to the question on membership and determining what proportion of union members report attendance at one or more meetings, and treating the rest as non-participants. Of the 1,812 respondents reporting union membership, 55% report attendance at one or more of the last three meetings of the union (Table 68). Among workers in the Oil industry, reported attendance is much higher at 76% and somewhat higher in Automobiles with 64% and Printing with 63% reporting attendance.

TABLE 67

RESPONSES BY INDUSTRY TO THE QUESTION:
HAVE YOU EVER BEEN A STEWARD IN A UNION?
(in percentages)

Percentage saying:

INDUSTRY	Percentage saying:				Total	No. of cases
	Yes, once	Yes, twice	Yes, many times	No		
Automobiles	8.4%	2.4%	3.7%	81.9%	100.0%	491
Chemicals	10.9	2.2	6.9	69.0	100.0	274
Electrical	18.6	5.4	8.1	64.8	100.0	446
Oil	9.5	2.9	5.3	41.6	100.0	452
Printing	17.2	4.4	3.6	53.8	100.0	611
Steel	17.3	2.7	4.3	72.9	100.0	369
TOTAL	13.8	3.5	5.1	63.0	100.0	
No. of cases	366	92	135	1666		2643

Cramer's V = .214

No. of non-responses = 189

TABLE 68

ATTENDANCE OF UNION MEETINGS
BY UNION MEMBERS BY INDUSTRY
(in percentages)

Percentage attending:

<u>INDUSTRY</u>	<u>One meeting</u>	<u>Two meetings</u>	<u>All three meetings</u>	<u>Non- attendance</u>	<u>Total</u>	<u>No. of cases</u>
Automobiles	27.9%	21.5%	8.9%	41.7%	100.0%	451
Chemicals	16.6	9.3	9.7	64.4	100.0	247
Electrical	20.4	10.8	7.9	60.9	100.0	417
Oil	12.5	14.1	10.3	63.1	100.0	312
Printing	23.7	15.1	7.4	53.8	100.0	485
Steel	20.2	12.5	6.0	59.3	100.0	357
TOTAL	21.1	14.4	8.5	56.0	100.0	
No. of cases	474	524	192	1259		2249

No. of non-responses = 583

Cramer's V = .108

In Electrical Products reported attendance is only 43%, the lowest in the sample, while in Chemicals and Steel it is almost as low with 46% and 48%, respectively.

B. WORKERS' EVALUATION OF UNIONS
AND UNION OFFICIALS

Responses to a question providing respondents with four alternatives expressing different degrees of approval and disapproval of unions shows that, in this respect, there are substantial differences among the workers in the various industries (Table 69). The most favourable response "Labour unions in this country are doing a fine job", is given most frequently by Steel workers (15%), Electrical workers (15%), and Automobile workers (13%). Workers in the two industries with non-unionized firms in the sample endorse unions less frequently (Printing: 8%, Oil: 6%) as could be expected, but Chemical workers clearly differ from the other three unionized industries by giving this response less frequently (9%).

None of the six industries varies significantly from the mean of 70% giving the response "while they do make some mistakes, on the whole labour unions are doing more good than harm". Very few people (only 28 in the total sample) are prepared to say "this country would be better off without any labour unions at all". But in the third alternative, "although we need labour unions in this country, they do more harm than good, the way they are now", the same differences appear among the industries as noted earlier. Oil workers (27%), Chemical workers (23%), and Printing workers (20%) give this response more frequently than workers in the other three industries, confirming the relatively more negative attitude to unions in their industries.

TABLE 69

EVALUATION OF LABOUR UNIONS IN GENERAL BY INDUSTRY
(in percentages)

Labour unions are doing:

<u>INDUSTRY</u>	<u>A fine job</u>	<u>More good than harm</u>	<u>More harm than good</u>	<u>Country better off without unions</u>	<u>Total</u>	<u>No. of cases</u>
Automobiles	12.6%	71.9%	14.2%	1.4%	100.0%	494
Chemicals	8.7	68.2	22.8	0.3	100.0	289
Electrical	14.7	72.4	12.7	0.2	100.0	450
Oil	5.9	66.5	26.3	1.3	100.0	525
Printing	7.8	71.1	19.5	1.7	100.0	657
Steel	15.3	70.8	13.7	0.3	100.0	373
TOTAL	10.5	70.2	18.3	1.0	100.0	
No. of cases	292	1958	510	28		2788

No. of non-responses = 44

Cramer's V = .101

A more favourable attitude to unions seems to be more prevalent in larger firms than in smaller ones, if we take into account that Automobiles, Electrical Products and Steel are represented by large companies in this sample. However, more than 80% of the total sample express approval of labour unions.

There were three questions in the questionnaire asking the respondent's opinion of the local union and its officers. The first asked "How much do local union officers care about workers in your firm?" The second asked "How much say does the union have in how this firm is run?" And the third asked "In your opinion, how good are local union officials at fighting for the interests of the workers?"

Since these questions dealt with specific union locals, we eliminated the non-unionized firms from the analysis.

With respect to the first question, there are very few substantial differences among the industries (Table 70). In the total sample 73% think local officers care "very much" or "quite a lot". Among unionized Oil workers 79% give these responses, while only 65% of the Chemical workers respond in the same way. Automobile workers are also consistently, if not as markedly, lower than average on this point with 69% saying local officers care "very much" or "quite a lot" and 9% that they care "very little" or "not at all". For the total sample, an average of 7% choose the "very little" or "not at all" alternatives.

Chemical workers maintain a consistent response toward the local union on both of the other questions. Only 12% of them, as compared with 21% of the total sample, think that the local union has "very much" or "quite a bit"

TABLE 70

RESPONSES BY INDUSTRY TO THE QUESTION: HOW MUCH
DO UNION OFFICERS CARE ABOUT WORKERS IN YOUR FIRM?
(in percentages)

<u>INDUSTRY</u>	<u>Union officers care:</u>					<u>No. of cases</u>
	<u>Very much</u>	<u>Quite a lot</u>	<u>A little</u>	<u>Very little</u>	<u>Not at all</u>	
Automobiles	21.8%	47.4%	22.0%	7.3%	1.5%	481
Chemicals	21.3	43.9	30.1	4.0	0.7	272
Electrical	26.9	48.3	18.0	6.6	0.2	438
Oil	26.5	53.0	13.5	3.5	3.5	200
Printing	30.9	42.6	19.1	5.2	2.2	362
Steel	26.6	49.8	18.3	5.0	0.3	361
TOTAL	25.6	47.3	20.3	5.6	1.2	100.0
No. of cases	542	996	429	119	26	2114

No. of non-responses = 718

of say on how the firm is run, while 51%, as compared with 41% for the total sample, think it has "very little" say or no say at all (see Table 60, Chapter VI). Only 45% of the Chemical workers, as compared with 55% of the total sample, think local union officials are "very good" or "good" at fighting for the interests of the workers (Table 71). Hence the evaluation of the local union officials is lower among Chemical workers than among the others in the sample.

No consistent picture appears for any of the other industries. Among Oil workers, for example, a larger proportion than in any other industry indicate that local union officers care a lot (79%). But the proportion of Oil workers saying that union officials have much say in how the firm is run is the smallest among the six industries (11%) while the proportion saying they have "very little" or "no" say is the largest (56%). Yet on the third question they are slightly above average in their assessment of how good union officials are in fighting for the interests of the workers.

C. ATMOSPHERE OF LABOUR-MANAGEMENT RELATIONS

The atmosphere of labour-management relations in the company has proved to be an unexpectedly important factor in relation to almost all other aspects of the worker's perceptions, evaluations, and attitudes related to his company, his job and the specific change events selected for this study. We have included it as one of the few controls we are able to apply in the examination of all relationships between variables. As such it has been discussed elsewhere and its associations with these variables are described in the appropriate chapters. Here we are mainly interested in noting the differences among the industries in this respect.

RESPONSES BY INDUSTRY TO THE QUESTION: IN YOUR
OPINION, HOW GOOD ARE LOCAL UNION OFFICERS AT
FIGHTING FOR THE INTEREST OF WORKERS?
(in percentages)

Union officers are:

<u>INDUSTRY</u>	<u>Very good</u>	<u>Good</u>	<u>Fair</u>	<u>Poor</u>	<u>Very poor</u>	<u>Total</u>	<u>No. of cases</u>
Automobiles	13.9%	38.3%	27.8%	7.8%	2.2%	100.0%	497
Chemicals	13.7	31.3	41.6	9.9	3.5	100.0	284
Electrical	23.2	40.5	29.2	3.8	3.3	100.0	452
Oil	17.6	40.4	33.5	6.4	2.1	100.0	233
Printing	19.3	41.4	30.7	6.0	2.6	100.0	384
Steel	14.6	33.4	42.7	6.9	2.4	100.0	377
TOTAL	17.2	37.8	35.7	6.6	2.7	100.0	
No. of cases	383	841	795	148	60		2227

No. of non-responses = 605

One indicator of the atmosphere of labour relations is the question "Do employees usually have to fight for what they get in your Company?" on which there are significant differences among the industries (Table 72). In the total sample 48% indicate that they "usually" have to fight for their interests, while another 38% say they "sometimes" have to fight. Only 3% say they "never" have to fight and the remaining 10% say they "seldom" have to fight for their interests. Automobile workers are much more likely to say they "usually" have to fight for their interests with 69% giving this response. Steel (58%) and Electrical Products (59%) workers also give this response more frequently. Chemical workers are only slightly higher than average with 52% giving this response. On the other hand, Printing workers and Oil workers give this response much less frequently with only about 30% in each industry indicating that they "usually" have to fight for their interests.

When we combine the frequencies of "usual" and "sometimes" responses, it is only Printing that differs substantially from the other industries, although Oil remains somewhat lower than the others. Only 65% of workers in Printing say they "usually" or "sometimes" have to fight for their interests, while 84% in Oil say so and around 95% in all the other industries give one of these responses. Printing workers also say much more frequently that they "never" have to fight for their interests with 12% giving this response, as compared to only 2% in Oil and 1% in all the other industries.

Hence Printing and Oil workers stand out as much less inclined to report that they have to fight for their interests in their companies.

TABLE 72

RESPONSES BY INDUSTRY TO THE QUESTION:
DO EMPLOYEES USUALLY HAVE TO FIGHT FOR
WHAT THEY GET IN YOUR COMPANY?
(in percentages)

INDUSTRY	Percentage saying:				No. of cases
	Usually	Sometimes	Seldom	Never	
Automobiles	68.5%	27.1%	3.2%	1.2%	502
Chemicals	52.1	41.3	6.6	-	288
Electrical	59.2	35.9	4.2	0.7	449
Oil	29.3	55.1	13.5	2.1	535
Printing	31.2	33.7	24.4	10.7	661
Steel	57.7	37.2	4.5	0.5	376
TOTAL	47.7	38.2	10.8	3.3	
No. of cases	1340	1074	304	93	2811

No. of non-responses = 21

Cramer's V = .251

A very similar pattern emerges in the responses to the direct question on whether labour-management relations are marked by conflict or co-operation (Table 73). The only industry in which a majority indicate that relations are marked by conflict is Automobiles (56%). However, this should be seen in the light of the fact that the data was gathered at the time of the strike over wage parity. This fact alone may account for this response. For example, the proportion of Automobile workers saying that workers "usually" or "sometimes" have to fight for their interests is no larger than in Steel, Electrical Products, or Chemicals.

Aside from Automobiles, Chemical workers indicate an atmosphere of conflict more often than others (43% compared with an average of 35% for the total sample). But Electrical Products and Steel are not significantly lower, with 41% and 37%, respectively, indicating conflict. Among Printing and Oil workers, however, the proportions reporting an atmosphere of conflict are much lower—only 19% in Printing and 24% in Oil. This latter response is consistent with the substantially lower proportions of Printing and Oil workers indicating that workers "usually" or "sometimes" have to fight for their interests.

To link attitudes in the area of labour-management relations more directly to decision-making about change, we asked the following question:

Q. 120 Which one of the following statements comes closest to your views on responsibility for decisions about change?

Management alone has the responsibility to make these decisions.

Management alone has the responsibility to make these decisions but it should consult with the unions or workers.

TABLE 73

RESPONSES BY INDUSTRY TO THE QUESTION: WOULD YOU
SAY LABOUR-MANAGEMENT RELATIONS IN YOUR FIRM ARE
MAINLY MARKED BY: CONFLICT OR CO-OPERATION?
(in percentages)

Labour relations marked by:

<u>INDUSTRY</u>	<u>Conflict</u>	<u>Co-operation</u>	<u>Total</u>	<u>No. of cases</u>
Automobiles	56.4%	43.6%	100.0%	495
Chemicals	42.5	57.5	100.0	285
Electrical	40.7	59.3	100.0	450
Oil	23.7	76.3	100.0	493
Printing	18.5	81.5	100.0	622
Steel	<u>37.0</u>	<u>63.0</u>	<u>100.0</u>	<u>370</u>
TOTAL	35.1	64.9	100.0	
No. of cases	952	1763		2715

No. of non-responses = 117

Cramer's V = .282

Management does not have the responsibility to make these decisions alone, the unions have an equal responsibility and decisions should be made together.

Management and the unions cannot decide these matters alone; the workers affected by the change should have a say.

The first two alternatives both recognize a clear decision-making responsibility for management, whereas the last two indicate an insistence on at least an equal responsibility for unions and workers. If we group responses together in this way, 69% of the total sample recognize the clear responsibility of management alone (Table 74). There are only slight differences among the industries with Steel, Electrical Products and Automobiles showing less than average proportions of these responses and Oil, Printing and Chemicals showing more than average proportions. Chemicals, with 75% giving these responses, is the highest, which is somewhat surprising in the light of the other indicators of labour-management relations in that industry. They seem to be higher than average in willingness to concede the rights of management and lower than average in evaluation of local union officials.

When we examine the relationship between perceived atmosphere of labour-management relations and respondents' opinions on the locus of responsibility for decisions about change, we find that those who report an atmosphere of co-operation are more likely than those who report conflict to say that management alone has the responsibility ($V = .100$). The relationship is stronger for those under 40 years of age and those with high school or more education. Those who report conflict tend to say more often that workers should participate in the decisions, while those who perceive co-operation

TABLE 74

RESPONSES BY INDUSTRY TO THE QUESTION: WHO HAS
RESPONSIBILITY FOR DECISIONS ABOUT CHANGE?
(in percentages)

Percentage saying that responsibility lies with:

INDUSTRY	Management alone	Management alone consulting with union or workers	Management & unions together equally	Management, unions & workers affected	Total	No. of cases
Automobiles	16.7%	49.3%	16.7%	17.3%	100.0%	491
Chemicals	17.0	58.0	10.8	14.2	100.0	288
Electrical	8.2	55.4	14.0	22.4	100.0	451
Oil	14.5	57.3	12.4	15.8	100.0	518
Printing	19.5	52.7	10.6	17.2	100.0	662
Steel	10.9	54.5	15.3	19.3	100.0	367
TOTAL	14.8	54.2	13.2	17.8	100.0	
No. of cases	412	1505	366	494		2777

No. of non-responses = 55

Cramer's $V = .080$

tend to say more often that management should consult with unions and workers. But the association between atmosphere and opinions on responsibility is not as strong as we expected.

It is interesting to note that opinions on the locus of responsibility for decisions about change also relates to size of plant ($V = .153$). A greater proportion of those in plants with 500 to 999 employees say that management alone has the responsibility (24%) while those in the smallest and largest plants give this response less frequently (11% and 12%, respectively). The relationship is not affected by controls for atmosphere, age, or education.

In the area of labour-management relations there seem to be important differences among the firms in the different industries in our sample. The Chemical industry tends to be alone in presenting a consistent case of low evaluation of the local union combined with an atmosphere of conflict and a higher degree of submissiveness to management. Automobiles, Steel and Electrical Products seem to occupy a middle ground with a comparable state of affairs in all three. Oil and Printing represent cases of greater confidence in the performance of local union officials and a greater proportion reporting an atmosphere of co-operation.

D. UNIONIZED VERSUS NON-UNIONIZED FIRMS

An aspect of the structure of a firm which could be associated with the atmosphere of labour-management relations is whether or not the firm is unionized. We had three non-unionized firms in our sample; a small Printing firm of less than 200 employees, a larger Printing firm of less than 1,000 employees and a large Oil refinery of about 1,500 employees. (A

large non-unionized Steel company decided belatedly to withdraw from participation in the study). Although this variable is, therefore, not completely independent of plant size, we can examine its effect in a meaningful way.

There is a strong relationship between unionization and perceived atmosphere of management-labour relations in our sample ($V = .204$). In the non-unionized firms only 17% of the respondents perceive the atmosphere as characterized by conflict, while in the unionized firms 40% report a perception of conflict. When we control separately for age and education the relationship remains strong for both categories of each variable, but is stronger for older respondents over 40 years of age and for those who completed high school than for their lower counterparts. It is clear, however, that the relationship is not simply an artifact of any of these three factors.

The relationship between unionization and locus of responsibility for decisions about change is fairly strong with those in non-unionized companies being more likely to say that management alone has the responsibility than those in unionized firms ($V = .153$). In non-unionized firms 74% say management alone has the responsibility, while in unionized firms only 67% give these responses. When we control for age and education, we find that these variables do not affect the strength of the relationship. Atmosphere of labour-management relations does make a difference, however. Among those who report an atmosphere of conflict the relationship becomes very weak ($V = .063$), while it is somewhat stronger for those who reported co-operation ($V = .165$). Again, for those who perceive conflict, the presence or absence of a union seems to make little difference. In an atmosphere of co-operation, on the other hand, the presence of a union seems to be

related to a greater degree of insistence on the responsibility or right of workers to participate in change decisions affecting them.

1. Company's Handling of Change

An examination of the relationship between unionization and the workers' evaluation of two aspects of the manner in which the company handled the change event is examined below.

(a) Adequacy of Information

Those in non-unionized firms are somewhat more likely to say that they received adequate information and advance notice of the change than those in unionized firms ($V = .086$). When we control for atmosphere, however, this weak relationship becomes even weaker for both those who report conflict ($V = .039$) and those who report co-operation ($V = .053$). Hence existence of a union as such does not seem to make a difference in worker's perception of the adequacy of advance notice of change. The strength of the relationship increases for those over 40 years of age and for those with some high school or less education ($V = .110$ and $.108$, respectively). The direction remains the same.

(b) Extent of Worker Participation
in Change Decisions

There is only a weak relationship, with those in non-unionized firms slightly more likely to say that workers did participate in making the decision ($V = .074$). The relationship is somewhat stronger for those who report an atmosphere of conflict while it virtually disappears for those reporting co-operation. Hence it appears that the existence of a union as

such does not make much of a difference even in a situation that is perceived as characterized by conflict.

2. Workers' Readiness to Accept Change

Unionization also relates to some aspects of the worker's readiness to accept the consequences of change, namely, dislocation, relocation and personal costs.

(a) Readiness to Accept Dislocation and Relocation

Respondents in non-unionized firms are more likely to indicate that they would accept dislocation while those in unionized firms give higher responses indicating readiness to strike or quit the job rather than accept dislocation as a fact of life ($V = .120$). Controls for age, atmosphere, education and income do not affect the relationship much. The relatively weak tendency for workers in unionized firms to be more likely than workers in non-unionized firms to resist relocation ($V = .104$), disappears almost altogether when we control for atmosphere, but it does remain about the same under the effects of control for age. For the higher educated group it disappears, probably because of the higher proportions of supervisors and management in both categories in this group.

(b) Readiness to Accept Personal Costs of Change

There is a moderate relationship between unionization and this factor ($V = .109$). Those in non-unionized firms are more likely than those in unionized firms to say they will stay on the job and accept the cost of change. Of those in non-unionized firms, 21% score high on a scale of

readiness to accept personal costs of change while only 13% of those in unionized firms score high on the same scale.

The relationship seems, however, to contain various components having little to do with the presence or absence of unions. When we control for atmosphere of labour-management relations we find that the relationship becomes very weak for those who report an atmosphere of conflict ($V = .042$), while it remains at the original level for those perceiving an atmosphere of co-operation ($V = .099$). Hence, in an atmosphere of co-operation, the presence of a union is more likely to be associated with a lower degree of readiness to accept the personal costs of change than in an atmosphere of conflict.

When we control for age and education, we find that the relationship becomes weak for those under 40 years of age and those who completed high school or more education, while it remains fairly strong for the opposites of these values on these two variables. It is difficult to interpret the behaviour of this relationship. The most likely explanation seems to lie in the fact that one of the largest of the non-unionized companies is characterized by a larger proportion of respondents showing more than 40 years of age and an atmosphere of co-operation. But this does not account for the fact that the direction of the relationship remains the same for the unionized companies.

Unionization, as we have been able to measure it here, does not seem to be in itself an important factor in workers' attitudes to change and their perceptions of a specific change event. The atmosphere of labour-management relations seems to be a much more powerful factor than the

absence or presence of a union. However, these are not necessarily independent factors since perception of conflict, at least in our sample, is more likely to occur in a unionized company than in a non-unionized one. Although our data do not justify generalizations in this respect, our findings suggest that this whole area requires further investigation.

E. LOCUS OF RESPONSIBILITY FOR CHANGE DECISIONS

As we have seen, opinions about the locus of responsibility relate fairly strongly to both unionization and atmosphere of labour relations. Since we have reported the relationship of the perceived atmosphere of labour-management relations to perceptions of and attitudes toward change in the earlier chapters, we selected opinions on responsibility as a variable to examine this relationship further.

Opinions on the locus of responsibility for change decisions is from weakly to moderately related to the worker's perceptions of various aspects of the specific change event. Those who think management alone should have the responsibility for change decisions are slightly more likely than those who think unions and workers should share the responsibility to say that the specific change event in their firm had a positive impact on their job satisfaction (Table 75, $V = .083$) and that they received adequate information on the change ($V = .079$). Controls for age, education and atmosphere do not affect the strength of direction of the associations.

The relationships of this variable to the various aspects of readiness to accept the specified consequences of change are also moderate and in the same direction. Those who say management alone has the responsibility to

TABLE 75

EVALUATION OF IMPACT OF CHANGE ON JOB SATISFACTION
BY LOCUS OF RESPONSIBILITY FOR CHANGE DECISIONS
(in percentages)

PERCENTAGE INDICATING	Percentage indicating;			Total	No. of cases
	Positive impact (4-6)	No impact (7-8)	Negative impact (9-12)		
Management alone	18.4%	74.1%	7.5%	100.0%	413
Management consulting with unions	14.2	74.0	11.8	100.0	1505
Management and unions equally	10.9	73.0	16.1	100.0	366
Workers affected should have say	10.3	71.5	18.2	100.0	494
TOTAL	13.7	73.4	12.9	100.0	
No. of cases	381	2039	358		2778

No. of non-responses = 54

Cramer's V = .083

make change decisions are more likely to indicate readiness to accept the consequences of change than those who think unions and workers should participate (V ranges from .062 to .135). The strongest relationship is with readiness to accept dislocation where those who think the workers affected should have a say are much more likely to complain, strike or quit their jobs before accepting dislocation than those who think management alone has the responsibility. None of these four relationships are affected by controls for age, education and atmosphere. Hence it is quite safe to say that these opinions on the decision-making powers of management and labour have an effect independent from that of atmosphere on the workers' perceptions and evaluations of the specific change event, as well as on his readiness to accept specified consequences of change.

F. UNION OFFICE HOLDING

Another perspective on the labour-management relations in these firms can be obtained by determining whether past and present union officials are likely to behave differently from those who have not been officials. We were able to identify 625 respondents who were either current or past union officials in their locals. We compared these with all others on all the variables examined above. All of the 52 cross-tabulations, including controls, show only weak relationships of this variable to factors relating to change. There is, therefore, no evidence in our sample that union officials represent any significantly different approach to problems of change than the ordinary workers or non-officials.

G. PARTICIPATION IN UNION ACTIVITIES

We asked respondents how many of the last three meetings of the union

local they had attended. As indicated earlier, it is necessary to separate non-participants from non-members, especially those in non-unionized firms. In our examination of this variable, we have not been able to do this. The relationships we obtained are, therefore, for participants as compared with all others who answered this question. We have seen that a substantial number of non-members answered the question by indicating that they did not attend any meeting. The comparison is therefore with non-participants plus some 400 non-members. This should not influence the relationships too much but until we have separated these 400 non-members out it is well to remember that the comparison is not quite appropriate for the examination of participation as a variable.

Let us look at the relationship of union participation to the perceived radicalness of the change, the perceived impact of the change event on the respondent, the reported readiness to undergo retraining, dislocation or relocation if required by change, and the readiness to accept the personal cost of change.

1. Perceived Radicalness of the Change

The relationship between participation and this variable is weak ($V = .068$). Participants are somewhat more likely than the others to define the change as very basic or major.

When we control for age, atmosphere and education we find that the relationship remains unchanged for those over 40 years of age, those who report an atmosphere of co-operation, and those with some high school or less education. For those under 40 years of age and those who completed high school or more education, the relationship is slightly strengthened

($V = .082, .090$, respectively). In other words, the younger, better educated participants are more likely to see a change as very basic or major. It is difficult to say "regardless" of the actual radicalness of the change since we cannot control for this variable.

2. Evaluation of Impact on Job Satisfaction

There is a weak relation between union participation and perceived impact of the change, with participants being more likely to report that the change had a negative impact on them ($V = .095$). Of those who attended all three meetings, 23% score negative on a measure of the impact of the change. For those who attended twice and once, the corresponding proportions are 19% and 16%, respectively, while only 10% of those who attended none report a negative impact. All proportions are, therefore, in the same direction: the more the participation, the more likely a report of a negative impact. This relationship remains essentially unchanged by controls for age, atmosphere of labour-management relations, and education.

3. Readiness to Undertake Retraining

The relationship of participation to this variable is virtually identical to its relationship to perceived radicalness of change. Participants are somewhat less likely to indicate willingness to undertake retraining at their own expense than are the rest, and this is more true for those under 40, those who perceive an atmosphere of conflict and those with high school or more education than for their counterparts.

4. Readiness to Accept Dislocation and Relocation

Union participation also shows a slight relationship to readiness to

accept dislocation and relocation, with non-participants always more ready to accept these moves than participants ($V = .102$ for dislocation, and $.061$ for relocation). Controls for age, education and atmosphere do not affect the relationships, with one exception. For those who perceive an atmosphere of co-operation, there is no significant relationship between participation and readiness to accept relocation, though the trend is still in that same direction.

5. Readiness to Accept Personal Cost of Change

Union participation relates weakly to this variable ($V = .058$). Participants are less likely than the rest to score high on a scale measuring readiness to accept personal cost of change. The relationship becomes even weaker for those under 40 years of age when one controls for age, but is somewhat stronger for those over 40. Atmosphere and education do not alter the relationship substantially.

It seems, therefore, justifiable to conclude that union participation is only weakly associated with orientations to change. If workers participate, they are only slightly more likely to consider a change as radical, to define its impact in negative terms, and to show less readiness to accept the specified consequences of change.

In the first part of this chapter we investigated unionization and labour-management relations as they related to type of industry. The main finding was that Printing and Oil workers stood out as much less inclined to perceive an atmosphere of conflict and much less likely to report that they have to fight for their interests in their companies. A further aspect of this finding is that the non-unionized firms were much more

likely to perceive an atmosphere of co-operation than the unionized firms. However, since Printing and Oil make up the bulk of the non-unionized category, it is clear that we are unable to separate the influence of unionization from that type of industry. These factors require further investigation.

The second phase of the analysis involved the relationship between unionization, participation and attitudes toward industrial change. It was not clear that unionization per se was related to attitudes toward change. However, we did find that the atmosphere of labour-management relations was an important factor in these attitudes.

Finally, we found that union participation (attendance at union meetings) was only slightly associated with more negative attitudes toward change. Moreover, workers who were either current or past union officials were no more likely to take a harder line on change than other workers in the sample.

The main conclusion, then, seems to be that atmosphere of labour-management relations is an important factor regarding work related changes, but more refined research has to be done to ascertain the role of unions in this process.

CHAPTER VIII

CONCLUSION

One safe conclusion that emerges from this study is that the impact of industrial conversion on workers and their attitudes is a complex and variegated phenomenon about which it is not yet safe to generalize. We have barely managed to scratch the surface of an area that presents a major challenge in any growing, changing society such as Canada. Nevertheless, with these notes of caution about the vastness of the problem and the limitations of our efforts, we can review a few of the most salient trends in our data.

The relatively simple outline of the study will be recalled. We started out with a description of the things we try to "explain" in this study: the impact of industrial conversion as reflected in workers' perceptions, evaluations, and reactions to actual change events in their companies. We then moved on to consider in turn the relationships of a whole range of factors to our dependent variables, measured by the workers' reports of what happened when the change took place. These factors ranged out in concentric circles from the worker. We first examined his general orientations, or psychological dispositions to change, as well as his attitudes to specified consequences of change. From here we moved on to the worker's attitudes to his job in

terms of intrinsic and extrinsic job satisfaction and alienation. The next chapter considered a still wider set of aspects of the worker's situation, his occupational level and his relation to technology. This led us to a consideration of the importance of some factors deriving from the nature of the plant or firm and the worker's relationship to the organization. Finally, we examined the labour-management system and its relevance to the impact of industrial conversion on workers' perceptions of and attitudes to change.

The relative strength of these sets of factors varies over a wide range and does not entirely coincide with the distance they are removed from the worker. On the one hand, the worker's attitudes to his job, his satisfaction with both the meaningfulness of his job and its material aspects are the most powerful factors. Those who are satisfied with their jobs are, by far, more likely than those who are dissatisfied to react positively to the impact of change, to say that advance notice about the change was adequate, and to accept various costs of change.

On the other hand, it was the atmosphere of labour-management relations in the plant which proved a strong factor, so strong in fact that we controlled for it in all relationships we examined. As with high job satisfaction, those who perceive an atmosphere of co-operation are much more likely than those who perceive conflict to report a positive impact of change, to say they received adequate advance information about the change, and to say that they will accept dislocation, relocation, and other personal costs of change.

We know from Chapter IV that job satisfaction and atmosphere are strongly related. It is necessary to examine more closely why they are related and how they vary independently. Stating that they are important factors is only

the beginning. We have hardly begun to explore their determinants. It is one thing to say that people who perceive an atmosphere of co-operation are more likely to accept industrial change. It is another to ask why some plants are marked by an atmosphere of co-operation (as perceived by workers) and others are marked by conflict.

In between job satisfaction and labour-management atmosphere lies an intermediate arc of structures and relationships that did not relate very strongly to the impact of change—the worker's level of occupation, his relation to technology, his relation to his company, and the details of labour organization and behaviour.

The one really strong relationship for worker's level of occupation was an obvious one—managers and foremen are far more likely to participate in decisions about industrial change, and to evaluate it positively. There was also an interesting if not strong indication that the relatively unskilled are more likely to react negatively to industrial change.

When we examined a host of factors in the worker's relationship to his company, evaluation of the company appeared to be the most important in relation to the impact of change. It is significant that those who say that their company is more interested in costs than in its people are more likely to react negatively to the change, to indicate that information is inadequate and to accept various hypothetical consequences of change.

Level of occupation, evaluation of company and other factors examined in the report are clearly of some interest but they do not show the same level of strength as job satisfaction and atmosphere of labour-management relations. Perhaps part of this weakness derives from the crudeness of our

measurements and classifications. Much more could be done to examine these factors more carefully.

The fact that job satisfaction, atmosphere of labour-management relations and evaluation of the company were found to be important factors in this study should not be taken as a demonstration of their causal priority. For example, in the type of cross sectional data which we have, it is not clear whether perception of a conflict atmosphere precedes the negative evaluation of a change, or whether the change has such a negative impact that the perception of a conflict atmosphere is the outcome. Like many of the relationships examined in this study, both statements are likely true. The important issue is to ascertain the relative strength of the direction. It is obvious that a longitudinal study, where job satisfaction, atmosphere of labour-management relations, etc., measures are taken before and after the introduction of changes, is most desirable to unravel these complex relationships.

On the general social level, we found that age and education relate very strongly to dispositions and reactions to the impact of industrial conversion. Age is one of those things we have to live with and the more we live with it the older we get. But it is encouraging to discover that older people who are satisfied, who find their work atmosphere congenial and who have general orientations favourable to change, are more likely to react favourably or positively to the impact of change than those who are dissatisfied, perceive conflict in relation to management and have a dislike for change. Although age is immutable, a lot could be done for older people, considering the fact that evidently some older workers are satisfied with their jobs and can adapt to industrial change under appropriate circumstances.

Education is another factor that facilitates adaptation to change while a lack of education clearly makes for a greater probability of negative reactions to industrial change. Once we realize the necessity in a rapidly changing society to continue education through a lifetime we can discard the concept of education as something that every individual completes early in life. This is particularly so since our data show that the more education people have the more ready they are to undertake retraining necessitated by change, even at their own expense.

Finally, our examination of the factors influencing a worker's readiness to put up with personal negative consequences of change suggests that the more mobile people—the younger, the better educated, the more change prone—are more likely to quit their jobs before they accept such negative consequences. Contradictory as it may sound, this seems to confirm that our "readiness to accept the consequences of change" measures should not be confused with "readiness to change". The difference may sound subtle but what it involves is the notion that the acceptance of the personal costs of change is not necessarily the most appropriate reaction to industrial change. The fact that it is the more typical response of the older, the less educated, the more docile and submissive, indicates that it is a reaction basically antithetical to the requirements of a dynamic, fast growing industry and society. Generally speaking, the more mobile the labour force, the more adaptable and flexible it is, the better it is for industry and society.

It is apparent from this study that a more carefully designed investigation is needed to sort out and assess the independent roles of the variables we have been surveying, and to pursue other factors that may likely be related to the phenomenon of industrial change. This study in a small way

identifies some of the factors that might be employed by government and industry to foster the growth and development of adaptability to change. This would make industrial conversion less painful and costly to the individuals and more advantageous to industry and society. But the absence of previous studies of this nature in Canada makes this, indeed, little more than a small beginning, perhaps contributing more to the formulation of the problems involved than to possible solutions.

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APPENDIX A

A NOTE ON STATISTICAL TESTS

Although almost all the relationships reported in this study reach a significant level of .05 or better, we decided not to report these levels. Strictly speaking they would be meaningless since our total sample was not randomly selected from a population with known parameters.

Instead, we adopted a very simple convention which allows us to state the strength of a relationship in ordinary language, while registering in parenthesis a simple statistic, Cramer's V. This statistic is the most useful measure of association for comparing the strength of relationships involving nominal variables in various tables. Moreover, unlike other such measures of association, Cramer's V ranges from zero to unity even when the numbers of rows and columns vary between tables.

We are primarily interested in providing the reader with a single indicator for comparing the relative strengths of the relationships we are discussing. For this purpose Cramer's V proved very convenient.

The convention we will follow throughout the report is the following:

1. When V equals less than .100 we shall refer to the relationship as "weak" and assume that the closer to .001 it comes the weaker it is. We will report V's of less than .100 rarely.

2. When V equals .100 - .199 we refer to the relationship as "moderate" or "fairly strong" depending on whether they fall closer to .100 or .199. The majority of relationships in the report probably fall in this category.

3. When V equals .200 - .299 we call it a "strong" relationship. These are less common, but they form a sizeable proportion of the relationships reported.

4. When V equals .300 and above we speak of a "very strong" relationship. There are only a few relationships at this level of strength in the report.

We report V in parenthesis immediately following the sentence in which this relationship was described and it should always conform to the convention outlined above.

TASK FORCE ON LABOUR RELATIONS
A STUDY OF WORKERS' ATTITUDES AND OPINIONS

You are one of the people in this Company who have been selected by a random sampling technique. It will be a tremendous help to us if you agree to fill in the questionnaire. Your answers to the questions will not be identified with you as an individual and in the analysis of the responses of all workers we will not know which responses are yours or any other individual's. No one but the researcher will see your questionnaire. You can be assured that your responses will be treated as strictly confidential.

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A. First, we would like to ask you some questions about yourself. Please answer all questions as best you can by circling one number only for each question. (CARD 1)

1. My sex is: Male. 1 (5)
Female. 2

2. My age at my last birthday was: Under 20. 1 (6)
20 - 24 2
25 - 29 3
30 - 34 4
35 - 39 5
40 - 44 6
45 - 49 7
50 - 65 8
Over 65 9

3. My present marital status is: Single. 1 (7)
Married 2
Separated 3
Divorced. 4
Widowed 5

4. Did you come to Canada from another country?
No, I was born in Canada 1 (8)
Yes, I came to Canada at or before age 16. . 2
Yes, I came to Canada after age 16 3
If yes, from what country did you come? (9)
(Write in) _____

5. Do you consider yourself a Canadian? Yes 1 (10)
No. 2
If no, what do you consider yourself?
(Write in) _____

6. In which town or city do you live now? (11)
(Write in) _____

7. Do you live in: Your own house? 1 (12)
A rented house? 2
A high rise apartment? 3
A small apartment building? . . 4

8. If it didn't matter for your work, where would you prefer to live?
In a big city? 1 (13)
In a medium sized city? 2
In a small town? 3
In a rural area? 4

9. How much schooling have you completed?

Some grade school	1	(14)
Completed grade school	2	
Some high school (academic)	3	
Completed high school (academic)	4	
Some high school (technical or business)	5	
Completed high school (technical or business)	6	
Some college	7	
Completed college	8	
Graduate or professional training	9	

10. How much schooling has your father completed?

Some grade school	1	(15)
Completed grade school	2	
Some high school (academic)	3	
Completed high school (academic)	4	
Some high school (technical or business)	5	
Completed high school (technical or business)	6	
Some college	7	
Completed college	8	
Graduate or professional training	9	

11. What is the size of the community in which you grew up?

Rural district, farm.	1	(16)
Less than 5,000 population.	2	
5,000 to under 20,000	3	
20,000 to under 50,000.	4	
50,000 to under 100,000	5	
100,000 to under 250,000.	6	
250,000 to under 500,000.	7	
500,000 to under one million.	8	
One million and over.	9	

12. How long has it been since you have last moved?

Less than 6 months.	1	(17)
6 months - 1 year	2	
More than 1, less than 3 years.	3	
3 - 5 years	4	
More than 5, less than 10 years	5	
10 years or more.	6	

13. How often have you moved since you have started working full time?

Never	1	(18)
Once	2	
Twice	3	
Three times	4	
Four times.	5	
Five to seven times	6	
Eight to ten times	7	
More than ten times	8	

14. Did you go to Expo '67?

Yes	1	(19)
No	2	

15. When you were a child, how strict were your parents in insisting that you obey and respect them?

Very strict.	1	(20)
Quite Strict	2	
Quite lenient.	3	
Very lenient	4	
Neither strict nor lenient . . .	5	
Did not grow up with parents . .	6	

16. When you were a child, how close would you say you were to your parents? (Close here means a warm, loving relationship with them)

Very close.	1	(21)
Quite close	2	
Fairly close	3	
Not very close	4	
Did not grow up with parents . .	5	

17. If you had to choose, to which one of the following social classes would you say you belong?

Upper class	1	(22)
Upper middle class	2	
Lower middle class	3	
Working class.	4	
Lower class.	5	

18. How many close friends do you have?

None	1	(23)
One.	2	
Two.	3	
Three.	4	
Four	5	
Five	6	
Six	7	
Seven.	8	
Eight or more.	9	

Please answer the following questions about your closest friends. If you have answered NONE in question 18, answer these questions for your friends or acquaintances, even though you do not consider them close.

19. How much schooling do most of your friends have?

More than I have	1	(24)
The same as I have	2	
Less than I have	3	

20. How often do you do things together with your friends (for example, visit, go to the movies, to the pub, shopping, social activities)?

Once a week or more.	1	(25)
2 or 3 times a month	2	
Once a month	3	
Two or three times a year. . . .	4	
Once a year	5	
Less than once a year.	6	

21. How many of your friends work for the same company as you do?

- | | | |
|------------------------|---|------|
| None | 1 | (26) |
| One | 2 | |
| Two | 3 | |
| Three | 4 | |
| Four | 5 | |
| Five or more | 6 | |

22. How many relatives do you often visit or do things together with?

- | | | |
|------------------------|---|------|
| None | 1 | (27) |
| One | 2 | |
| Two | 3 | |
| Three | 4 | |
| Four or more | 5 | |

23. Where do most of your relatives and friends live?

(a) Relatives: (Circle one number only)

- | | | |
|---|---|------|
| In the same neighbourhood as I do . . . | 1 | (28) |
| In the same part of the city | 2 | |
| In the same city | 3 | |
| In the nearby city or town | 4 | |
| In the same province | 5 | |
| In this country | 6 | |
| In the United States | 7 | |
| Elsewhere | 8 | |

(b) Friends: (Circle one number only)

- | | | |
|---|---|------|
| In the same neighbourhood as I do . . . | 1 | (29) |
| In the same part of the city | 2 | |
| In the same city | 3 | |
| In the nearby city or town | 4 | |
| In the same province | 5 | |
| In this country | 6 | |
| In the United States | 7 | |
| Elsewhere | 8 | |

24. Please indicate whether the following statements apply to you by circling one number for each.

(a) Almost all my friends are people I grew up with.

- | | | |
|---------------|---|------|
| Yes | 1 | (30) |
| No | 2 | |

(b) Most of my close friends are also friends with each other.

- | | | |
|---------------|---|------|
| Yes | 1 | (31) |
| No | 2 | |

(c) Most of my friends have the same religion as I do.

- | | | |
|---------------|---|------|
| Yes | 1 | (32) |
| No | 2 | |

B. Now we would like to ask a few questions about your social activities and interests in radio and television. Please circle one number only for each question.

25. To how many organized groups, associations, clubs, teams, etc., do you belong?
(We have in mind here groups which you join because you want to, not because you have to).

- None 1 (33)
- One 2
- Two 3
- Three. 4
- Four or more 5

The following three questions are about the group that is most important to you.

26. How many of the last three meetings or events of this group have you attended?

- None 1 (34)
- One 2
- Two 3
- All three. 4

27. Have you been an officer in this group?

- Yes, I've held one office 1 (35)
- Yes, I've held two offices 2
- Yes, I've held more than two offices. 3
- No, I've not held any offices 4

28. Which one of the following reasons do you think comes closest to your reasons for being a member of this group?

- (a) I belong to the group because I enjoy the things the group does, it's a lot of fun to do things for the sake of doing them with no other purpose in mind 1 (36)
- (b) I belong to the group because it does worthwhile things, things that one does because they are important, whether it is fun to do them or not 2

29. What is your religious preference? Please write down the exact name of the religious faith to which you belong or subscribe (for example, "Anglican," not just Protestant, or "Orthodox-Jewish," not just Jewish. Write down "none" if you have no preference.

(Write in) _____ (37-8)

30. How often do you go to church, synagogue or temple?

- More than once a week 1 (39)
- Once a week 2
- A few times a month 3
- About once a month 4
- About once every three months 5
- Mainly on important holidays 6
- Seldom 7
- Never 8

31. Do you take part in other religious activities? (for example, social clubs, youth groups, choirs?)
- | | | |
|---------------|---|------|
| Yes | 1 | (40) |
| No | 2 | |
32. How often do you pray?
- | | | |
|-------------------------------------|---|------|
| Never | 1 | (41) |
| Now and then | 2 | |
| About once a week | 3 | |
| Two or three times a week | 4 | |
| Once a day | 5 | |
| Twice a day | 6 | |
| Three times a day or more | 7 | |
33. How religious do you consider yourself?
- | | | |
|--------------------------------|---|------|
| Very religious | 1 | (42) |
| Moderately religious | 2 | |
| Slightly religious | 3 | |
| Not religious at all | 4 | |
34. Do you consider yourself more of a supporter of:
- | | | |
|---|---|------|
| The Liberal Party? | 1 | (43) |
| The Progressive Conservative Party? | 2 | |
| The New Democratic Party? | 3 | |
| Other | 4 | |
| I do not support a political party. | 5 | |
35. Generally speaking, do your friends support the same political party as you do?
- | | | |
|---------------|---|------|
| Yes | 1 | (44) |
| No | 2 | |
36. Have you voted in elections in Canada? For each of the two types of elections we want to know whether you voted in the last election that was held.
- (a) The Federal election?
- | | | |
|---|---|------|
| Yes, I voted. | 1 | (45) |
| No, I did not vote, but could have. | 2 | |
| No, I was not eligible to vote. | 3 | |
- (b) The Provincial election?
- | | | |
|---|---|------|
| Yes, I voted. | 1 | (46) |
| No, I did not vote, but could have. | 2 | |
| No, I was not eligible to vote. | 3 | |
37. Do you contribute to a political party or take part in party rallies?
- | | | |
|-------------------------------------|---|------|
| Yes, I contribute only. | 1 | (47) |
| Yes, I go to rallies only | 2 | |
| Yes, I do both. | 3 | |
| No, I do neither. | 4 | |

38. Name the newspaper(s) you read most regularly.

(48)

(49)

39. Which one of the following sections are you most interested in reading?

Sports 1
Financial 2
Political News 3
Editorial page 4
Reviews of cultural events, plays, etc. 5
Advice columns 6
Horoscope 7

(50)

40. Do you have a radio?

Yes 1
No 2

(51)

41. Do you have a television set?

Yes 1
No 2

(52)

42. How often do you listen to or watch news and weather reports? (Circle one number only for each of news and weather)

	News		Weather	
Several times a day	1	(53)	1	(54)
Once a day	2		2	
2 or 3 times a week	3		3	
Once a week	4		4	
Less often	5		5	
Never	6		6	

43. How many hours a day, on the average, do you watch television?

An hour or less 1
1 - 2 hrs 2
2 - 3 hrs 3
3 - 4 hrs 4
4 - 5 hrs 5
More than 5 hrs 6
I do not watch TV 7

(55)

44. Which television programs do you like best? Please write in.

(56)

(57)

45. Which programs do you watch most often and regularly? Please write in.

(58)

(59)

46. How many hours a day, on the average, do you listen to the radio?

- | | | |
|--|---|------|
| 1 - 2 hrs. | 1 | (60) |
| 2 - 3 hrs. | 2 | |
| 3 - 4 hrs. | 3 | |
| 4 - 5 hrs. | 4 | |
| More than 5 hrs. | 5 | |
| I do not listen to the radio | 6 | |

47. Which of the following views do you think should be allowed on television or radio? (Check as many as you wish)

- | | | |
|---|-------|------|
| Views of homosexuals. | _____ | (61) |
| Views on abortion | _____ | (62) |
| Views critical of the Queen | _____ | |
| Views of users of LSD and other drugs | _____ | |
| Views of racists. | _____ | |
| Views of communists | _____ | |
| Views on sex education for children | _____ | |
| Views of anti-Semites | _____ | |
| Views of Nazis. | _____ | |
| Views on birth control. | _____ | |
| Views of French-Canadian separatists. | _____ | |
| Views of U.S. draft-dodgers | _____ | |
| Views of atheists | _____ | |
| All of these. | _____ | |

IN THE FOLLOWING NINE QUESTIONS WE ASK YOU TO CIRCLE ONE PREFERENCE ONLY FOR EACH ITEM. YOU MAY HAVE DIFFICULTY IN CHOOSING JUST ONE FOR EACH ITEM, BUT IT IS IMPORTANT TO US THAT YOU CIRCLE THE ONE THAT COMES CLOSEST TO YOUR PREFERENCE IN EACH QUESTION.

48. The type of person I would most like to resemble is: (Circle one number only) (CARD 2)

(a) A person who is <u>esteemed</u> by others.	1	(5)
(b) A person who is <u>enjoyed</u> by others	2	
(c) A person who is <u>loved</u> by others	3	
(d) A person who is <u>approved</u> by others.	4	

49. I prefer a friend of my own sex who: (Circle one number only)

(a) is efficient, industrious and practical	1	(6)
(b) is warm and faithful in his friendship.	2	
(c) is a natural leader liked by other people	3	
(d) is actively concerned with justice and moral matters.	4	

50. On the whole, I prefer to associate with: (Circle one number only)

(a) People who are co-operative and ready to contribute their share to common goals.	1	(7)
(b) People whom I know well, am attached to and can rely on in every-thing	2	
(c) People who go about their own business and do what has to be done	3	
(d) People who are friendly and interesting every time I meet them.	4	

51. One should guide one's behaviour according to the standards of: (Circle one number only)
- (a) What is wanted or expected by others. 1 (8)
 - (b) What is permitted by the laws and norms of society. 2
 - (c) What is practical or possible 3
 - (d) What is desirable or ideal. 4
52. I am the type of person who: (Circle one number only)
- (a) Is confident that he can do everything reasonably well. 1 (9)
 - (b) Is concerned with the moral quality of his life and tries to live a respectable life. 2
 - (c) Is determined to take full responsibility for the decisions he makes in life 3
 - (d) Is living at peace with himself and finds happiness in himself. . . 4
53. If I had to choose what I would most like to be, I would choose: (Circle one number only)
- (a) To be loyal to the boss 1 (10)
 - (b) To be a responsible leader. 2
 - (c) To be a faithful companion (buddy). 3
 - (d) To be an efficient worker 4
54. I believe the most important task of a union is to: (Circle one number only)
- (a) Protect the contractual rights and interest of workers. 1 (11)
 - (b) Secure better working conditions and other facilities for workers . 2
 - (c) Awaken a strong political awareness and sense of responsibility among workers 3
 - (d) Enable workers to take better care of the welfare of their families, in terms of take-home pay, security, etc. 4
55. Of all the good things a man can be, I believe it is most important that he be: (Circle one number only)
- (a) A responsible member of the community, contributing to the attainment of its goals 1 (12)
 - (b) A law-abiding member of the community, respected for his moral life by others 2
 - (c) A conscientious and good worker on his job. 3
 - (d) A good husband, father, friend and friendly to others 4
56. If I could influence the educational policies of the schools of my city or town, I would: (Circle one number only)
- (a) Emphasize practical and technical training. 1 (13)
 - (b) Emphasize teaching of basic civic duties and ideals 2
 - (c) Stress the study of political problems and goals. 3
 - (d) Promote the study and participation in cultural activities. 4

57. Now we would like to ask you to tell us a little more about yourself by choosing the adjectives below which seem to describe you best.

You will notice that there are two columns. Each word in the left-hand column has a word in the right-hand column which is its exact opposite. If one word describes you well, the other won't. For example, you wouldn't choose both "nervous" and "calm." This can be enjoyable if you relax and let yourself go. Please put a check (✓) on the line which describes you best for each pair of words.

	<u>Very</u>	<u>Slightly</u>	<u>In- between</u>	<u>Slightly</u>	<u>Very</u>		
1. Flexible	_____	_____	_____	_____	_____	Inflexible	(14)
2. Bad	_____	_____	_____	_____	_____	Good	(15)
3. Active	_____	_____	_____	_____	_____	Passive	(16)
4. Strong	_____	_____	_____	_____	_____	Weak	(17)
5. Dependent	_____	_____	_____	_____	_____	Independent	(18)
6. Liking change	_____	_____	_____	_____	_____	Disliking change	(19)
7. Warm	_____	_____	_____	_____	_____	Cold	(20)
8. Pessimistic	_____	_____	_____	_____	_____	Optimistic	(21)
9. Submissive	_____	_____	_____	_____	_____	Dominant	(22)
10. Interested in enjoying myself	_____	_____	_____	_____	_____	Interested in get- ting things done	(23)
11. Conforming	_____	_____	_____	_____	_____	Non-conforming	(24)
12. Powerless	_____	_____	_____	_____	_____	Powerful	(25)
13. Idealistic	_____	_____	_____	_____	_____	Practical	(26)
14. Organized	_____	_____	_____	_____	_____	Unorganized	(27)
15. Disbelieving	_____	_____	_____	_____	_____	Believing	(28)
16. Nervous	_____	_____	_____	_____	_____	Calm	(29)
17. Trusting	_____	_____	_____	_____	_____	Distrusting	(30)
18. Dissatisfied	_____	_____	_____	_____	_____	Satisfied	(31)
19. High in self- confidence	_____	_____	_____	_____	_____	Low in self- confidence	(32)
20. Unimportant	_____	_____	_____	_____	_____	Important	(33)
	<u>Very</u>	<u>Slightly</u>	<u>In- between</u>	<u>Slightly</u>	<u>Very</u>		

C. This section contains a number of statements about which there is no general agreement. People differ widely in the way they feel about each item. There are no right answers. The purpose of the survey is to see how different groups feel about each item. We should like your honest opinion on each of these statements.

For each statement there are five alternative responses from which you are asked to choose the one coming closest to your own views:

- 1. STRONGLY AGREE
- 2. AGREE
- 3. UNDECIDED
- 4. DISAGREE
- 5. STRONGLY DISAGREE

These statements are set up so that immediately to the right of each one you will find the series of numbers, 1 2 3 4 5. All you have to do is circle the number of the response that comes closest to your own views.

Please use response number 3, "undecided", only when you find it completely impossible to decide right away whether you tend to agree or disagree with the statement. It is important that you indicate whether you agree (number 2) or disagree (number 4) even in cases where you are uncertain or where you have some reservations.

SAMPLE ITEMS:

I am less happy and contented than most people are. 1 2 3 ④ 5

One should strive to do one's best. ① 2 3 4 5

* * * * *

START HERE. READ EACH ITEM CAREFULLY. DO NOT SPEND MUCH TIME ON ANY ITEM. WORK RAPIDLY. BE SURE TO ANSWER EVERY ITEM.

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	
	1	2	3	4	5	
1. Too many things are planned these days; one should let things develop more naturally.	1	2	3	4	5	(CARD 3) (5)
2. I could just as easily live in another society, past or present.	1	2	3	4	5	(6)
3. A child should be expected to obey his parents without any explanation of why he should do what he is asked to do.	1	2	3	4	5	(7)
4. Short term goals should always be given priority over long term goals.	1	2	3	4	5	(8)
5. Even though technical change and automation is bound to happen, it doesn't mean that it is usually a good thing.	1	2	3	4	5	(9)
6. For most questions there is just one right answer, once a person is able to get all the facts.	1	2	3	4	5	(10)

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	
7. Ideas that have no useful or practical applications are of little use to man.	1	2	3	4	5	(11)
8. No matter who I'm talking to I'm always a good listener.	1	2	3	4	5	(12)
9. I sometimes feel nobody really cares for me.	1	2	3	4	5	(13)
10. Life, as most men live it in today's world, is meaningless.	1	2	3	4	5	(14)
11. Religion offers mostly an illusion that things are better than they really are.	1	2	3	4	5	(15)
12. I sometimes feel what might be called hatred for myself.	1	2	3	4	5	(16)
13. I like a job where I know that I will be doing my work about the same way from one week to the next.	1	2	3	4	5	(17)
14. To be a good member of the community, it is essential to belong to and to take an active part in organized community activities.	1	2	3	4	5	(18)
15. I am more realistic than idealistic, that is, more occupied with things as they are than with things as they should be.	1	2	3	4	5	(19)
16. One can be justifiably optimistic about the future of the world.	1	2	3	4	5	(20)
17. I feel useless and insecure at times, especially when I compare myself to others.	1	2	3	4	5	(21)
18. As it is, this society is in pretty good shape; efforts to change it will just make things worse.	1	2	3	4	5	(22)
19. All political viewpoints, no matter how extreme, should have a chance to be freely expressed and debated.	1	2	3	4	5	(23)
20. I like to have a place for everything and everything in its place.	1	2	3	4	5	(24)
21. More and more, I feel confused in the face of what's happening in the world today.	1	2	3	4	5	(25)
22. Technical change and automation should never interfere with the satisfaction a man gets out of his work.	1	2	3	4	5	(26)
23. The time in which we live promises so much for the future of mankind that our expectations can hardly be too great.	1	2	3	4	5	(27)
24. An intelligent man can believe in natural law and the worth of humanity but not in God or a Supreme Being.	1	2	3	4	5	(28)
25. One should make one's life as orderly as possible.	1	2	3	4	5	(29)

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	
26. Nowadays there are so many laws and regulations that the average man seldom knows what to do.	1	2	3	4	5	(30)
27. The welfare of the whole society should be promoted even at the cost of the interests of the individual.	1	2	3	4	5	(31)
28. There are two kinds of people in this world: those who are for the truth and those who are against the truth.	1	2	3	4	5	(32)
29. The kind of job I would most prefer would be a job where I am the final authority on my work.	1	2	3	4	5	(33)
30. After I've been to a movie or play, I like to analyze it in terms of some general standards of appreciation.	1	2	3	4	5	(34)
31. Most people work because they have to, but very few find real satisfaction and meaning in the sort of work they can find in modern society.	1	2	3	4	5	(35)
32. In business one can trust most people, even complete strangers.	1	2	3	4	5	(36)
33. The purpose of prayer is to solve difficult problems.	1	2	3	4	5	(37)
34. I would prefer to stay with a job I know I can handle than to change to one where most things would be new to me.	1	2	3	4	5	(38)
35. All religions should have the same rights before the law.	1	2	3	4	5	(39)
36. I sometimes try to get even, rather than forgive and forget.	1	2	3	4	5	(40)
37. Obedience and respect for authority should be the very first requirement of a good citizen.	1	2	3	4	5	(41)
38. In this society life has drifted so far away from what is desirable and ideal that I often despair about the future.	1	2	3	4	5	(42)
39. It is necessary for management to make technical changes continually even though this is not always in the workers' interests.	1	2	3	4	5	(43)
40. In setting goals for oneself it is better to concentrate on the immediate future than the distant future.	1	2	3	4	5	(44)
41. When I come across a difficult problem I prefer to solve it by myself without any help from others.	1	2	3	4	5	(45)
42. I set difficult goals for myself which I attempt to reach.	1	2	3	4	5	(46)
43. A man who does not believe in some great cause has not really lived.	1	2	3	4	5	(47)

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	
44. A person should conform in his ideas and his behaviour to those of the group he happens to be with at the time.	1	2	3	4	5	(48)
45. A child should be taught to plan and arrange everything in advance.	1	2	3	4	5	(49)
46. Considering everything that is going on these days, things look bright for the younger generation.	1	2	3	4	5	(50)
47. A person who thinks primarily of his own happiness is beneath contempt.	1	2	3	4	5	(51)
48. Goals that focus on and are limited to present circumstances are much less important than those aimed at the future.	1	2	3	4	5	(52)
49. One of the most important things children should learn is when to obey authorities.	1	2	3	4	5	(53)
50. One should try to get along without help from other people.	1	2	3	4	5	(54)
51. In order to be happy one must behave in ways that other people desire even if one has to suppress one's own ideas sometimes.	1	2	3	4	5	(55)
52. It is more important to know a person's past achievements than to know his family background when considering him for a position.	1	2	3	4	5	(56)
53. The world as it is is a pretty good place. We really don't need all this concern about change.	1	2	3	4	5	(57)
54. What is right or wrong depends on the specific situation, not on a given set of rules.	1	2	3	4	5	(58)
55. The trouble with most jobs is that you just get used to doing things in one way and then they want you to do them differently.	1	2	3	4	5	(59)
56. I sometimes feel resentful when I don't get my way.	1	2	3	4	5	(60)
57. It is only when a person devotes himself to an ideal or cause that life becomes meaningful.	1	2	3	4	5	(61)
58. I prefer to carry out an activity or a job rather than to talk about it.	1	2	3	4	5	(62)
59. Things like family background, sex and age should not be taken into account when a person is considered for appointment or promotion.	1	2	3	4	5	(63)
60. People often hurt my feelings.	1	2	3	4	5	(64)

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	
61. I wouldn't let my friendship ties in a community stand in the way of moving on to a better job	1	2	3	4	5	(65)
62. The integrity and preservation of the family is the highest goal that all men should set for themselves.	1	2	3	4	5	(66)
63. Organized religion determines the fate of civilization.	1	2	3	4	5	(67)
64. The world would be a much better place if each man took care of his own back yard.	1	2	3	4	5	(68)
65. I prefer to come to opinions about things pretty much on my own.	1	2	3	4	5	(69)
66. A man can be truly good without any religion at all.	1	2	3	4	5	(70)
67. People will be honest with you as long as you are honest with them.	1	2	3	4	5	(71)
68. The average citizen can have an influence on most government decisions.	1	2	3	4	5	(72)
69. I react to new ideas which I hear or read by analyzing them to see what they mean in general.	1	2	3	4	5	(73)
70. Permanence and stability, not change, are what we should aim for in society.	1	2	3	4	5	(74)
71. I'm very happy with most aspects of myself.	1	2	3	4	5	(75)
72. It is only natural to despair about the way things are going in this society.	1	2	3	4	5	(76)
73. The government should base its policy on achieving long term goals of the society even if it means giving up certain immediate goals.	1	2	3	4	5	(77)
74. As a country we should be more concerned about improving our own standard of living than about improving conditions in the new countries of Asia and Africa.	1	2	3	4	5	(78)
75. These days it is almost impossible to know what to expect of other people.	1	2	3	4	5	(79)
76. It's hardly fair to bring children into the world, the way things look for the future.	1	2	3	4	5	(CARD 4) (5)
77. In spite of what many people say, technical change and automation is really a very good thing.	1	2	3	4	5	(6)
78. Man should adapt to circumstances and not actively try to master them.	1	2	3	4	5	(7)

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	
79. Religion is especially important to me because it answers many questions about the true meaning of life.	1	2	3	4	5	(8)
80. I feel I'm able to get along well with people.	1	2	3	4	5	(9)
81. If you start trying to change things very much you usually make them worse.	1	2	3	4	5	(10)
82. People who give priority to satisfaction of their own desires are a danger to the unity of the group.	1	2	3	4	5	(11)
83. I am often worried and upset.	1	2	3	4	5	(12)
84. There is a God, Creator of the Universe, who knows one's innermost thoughts and feelings.	1	2	3	4	5	(13)
85. I often feel that I am drifting along in life with no particular role to play.	1	2	3	4	5	(14)
86. If we think ahead more often, we will have fewer problems.	1	2	3	4	5	(15)
87. In the time in which we live traditional lines between nations and races are outdated.	1	2	3	4	5	(16)
88. In spite of the ups and downs of family life, one usually has the happiest times at home.	1	2	3	4	5	(17)
89. If you want to get anywhere, it's the policy of the system as a whole that needs to be changed, not just the behaviour of individuals.	1	2	3	4	5	(18)
90. Under certain circumstances, disobedience to the government is justified.	1	2	3	4	5	(19)
91. The interests of the group ought to come before those of the individual.	1	2	3	4	5	(20)
92. The only meaning to existence is the one which man gives himself.	1	2	3	4	5	(21)
93. I'm always willing to admit it when I make a mistake.	1	2	3	4	5	(22)
94. When you come right down to it, people who are self-disciplined are the happiest.	1	2	3	4	5	(23)
95. Most people can be trusted.	1	2	3	4	5	(24)
96. If and when a new world organization is set up, Canada must be sure that she loses none of her independence and complete power in matters affecting this country.	1	2	3	4	5	(25)

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	
97. I feel confident that I can have a personal influence on what is done in this society.	1	2	3	4	5	(26)
98. It is better for a society to have a large number of different religious denominations than to have just one large one and a few small sects.	1	2	3	4	5	(27)
99. The greatest goal man can strive for is to understand fully the general laws of the universe and those governing his own behaviour in society.	1	2	3	4	5	(28)
100. If a change in society will benefit most people in the long run, it should be made even if it hurts many in the short run.	1	2	3	4	5	(29)
101. One can never feel at ease on a job where the ways of doing things are always being changed.	1	2	3	4	5	(30)
102. If one thinks a little, one must admit that it can be proven that there is no God.	1	2	3	4	5	(31)
103. I set a high standard for myself, and I feel others should do the same.	1	2	3	4	5	(32)
104. I am able to do things as well as most other people.	1	2	3	4	5	(33)
105. Technical change and automation are happening too rapidly these days.	1	2	3	4	5	(34)
106. One should concentrate on the present; the future remains uncertain.	1	2	3	4	5	(35)
107. These days a person doesn't really know on whom he can count.	1	2	3	4	5	(36)
108. Nothing in life is worth the sacrifice of losing contact with your family.	1	2	3	4	5	(37)
109. A person should obey only those rules and regulations which seem reasonable.	1	2	3	4	5	(38)
110. The greatest degree of self-expression and gratification to members of a group can be achieved through discipline and self-control in the group.	1	2	3	4	5	(39)
111. It seems to me that other people find it easier than I do to decide what is right.	1	2	3	4	5	(40)
112. Change in itself is always a good thing for nothing can be worse than stagnation.	1	2	3	4	5	(41)
113. I sometimes find it hard to be myself in this day and age.	1	2	3	4	5	(42)

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	
114. A lasting world peace can be achieved by those of us who work toward it.	1	2	3	4	5	(43)
115. I analyze the motives of others to see how well I can understand them in terms of general ideas about why people behave the way they do.	1	2	3	4	5	(44)
116. One should be guided by ideas of justice and charity in one's daily behaviour and not be too much concerned about one's own personal interests and security.	1	2	3	4	5	(45)
117. Nowadays a person has to live pretty much for today and let tomorrow take care of itself.	1	2	3	4	5	(46)
118. A man should obey the laws no matter how much they interfere with his personal ambitions.	1	2	3	4	5	(47)
119. A person should be undivided in his loyalty to his family.	1	2	3	4	5	(48)
120. If I had to go to a doctor or lawyer, I would prefer someone who is not a close personal friend of mine.	1	2	3	4	5	(49)
121. Most of the ideas which get printed nowadays aren't worth the paper they are printed on.	1	2	3	4	5	(50)
122. Church membership and attendance offer an opportunity to formulate good social relationships and to establish oneself in the community.	1	2	3	4	5	(51)
123. One of my greatest concerns is to be my own boss in as many aspects of life as possible.	1	2	3	4	5	(52)
124. Technical change and automation is a good thing, on the whole, even though it often interferes with the interests of the workers.	1	2	3	4	5	(53)
125. With everything in such a state of disorder it's hard for a person to know what are the right rules to follow.	1	2	3	4	5	(54)
126. I often do whatever makes me feel cheerful here and now, even at the cost of some distant goal.	1	2	3	4	5	(55)
127. To compromise with political opponents is dangerous because it usually leads to the betrayal of your own side.	1	2	3	4	5	(56)
128. The best standard to apply to any goal or ideal is: Is it practical? Will it work?	1	2	3	4	5	(57)
129. I enjoy thinking of new examples to illustrate general rules and principles.	1	2	3	4	5	(58)
130. Nowadays it is difficult to distinguish between good and bad conduct.	1	2	3	4	5	(59)

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	
131. I've never deliberately said something that hurt someone's feelings.	1	2	3	4	5	(60)
132. It is very important to me to get ahead in life.	1	2	3	4	5	(61)
133. Religion provides answers to problems of meaning which science will never be able to solve.	1	2	3	4	5	(62)
134. I sometimes feel that I am about to go to pieces.	1	2	3	4	5	(63)
135. There is a power greater than man, which some people call God and some people call nature.	1	2	3	4	5	(64)
136. Anyone can rise above circumstances if he tries hard enough.	1	2	3	4	5	(65)
137. I prefer letting things happen without worrying ahead too much, rather than planning everything carefully.	1	2	3	4	5	(66)
138. Quite often I have been keenly aware of the presence of God or of the Divine Being.	1	2	3	4	5	(67)
139. When I get used to doing things in one way, it is disturbing to have to change to a new method.	1	2	3	4	5	(68)
140. There's very little we can do to bring about a permanent world peace.	1	2	3	4	5	(69)
141. That which is distinctive of a people should be safeguarded at all cost - even if it means breaking off relations with other people.	1	2	3	4	5	(70)
142. It is not enough to believe that time will take care of things; one must actively intervene to get things done.	1	2	3	4	5	(71)
143. I would prefer a job where I could plan my work in advance.	1	2	3	4	5	(72)
144. Unquestioning obedience is not a virtue.	1	2	3	4	5	(73)
145. The greatest disadvantage of discipline is that it inhibits the expression of a person's full personality.	1	2	3	4	5	(74)
146. No one understands you as well as do members of your own family.	1	2	3	4	5	(75)
147. A trade union should <u>never</u> ask its members to strike in support of other trades, but should call strikes only for causes that will benefit its own trade.	1	2	3	4	5	(76)
148. I wish I could have more respect for myself.	1	2	3	4	5	(77)
149. In making decisions, I prefer to determine my position myself.	1	2	3	4	5	(78)
150. I'm sometimes irritated by people who ask favors of me.	1	2	3	4	5	(79)

D. In this section, we would like to ask you about your job and how you feel about the work you do. Please circle one number only for each question, when it applies.

58. What is your present job? Please write in the exact title (and grade, if any). (CARD 5)
(5,6)

How many years have you held this job?

(Write in) _____ (7)

59. What was the last job you had before you took your present job? (Please answer all sections)

(a) Exact title

(Write in) _____ (8,9)

(b) What was the type of business or firm in which previous job was held?

(Write in) _____ (10,11)

(c) In what city or town was it located? (Write in) _____ (12)

(d) How many years were you in this job? (Write in) _____ (13)

60. What was the first full time job you ever held?

(a) My last job was my first full time job. ____ Check if this applies to you.

(b) The exact title of the first full time job ever held?

(Write in) _____ (14,15)

(c) What was the type of business of firm?

(Write in) _____ (16,17)

(d) In what city or town was it located? (Write in) _____ (18)

(e) How many years were you in this job? (Write in) _____ (19)

61. How many times have you changed jobs since you left school?

Never.	1	(20)
Once	2	
Twice.	3	
Three times.	4	
Four times	5	
Five or more times	6	

62. What was your father's main job or type of work during most of his lifetime?
(Please write in as specifically as you can).

(21,22)

63. Do you expect to remain in your present type of job all your working career?

(a)	Yes.	1	(23)
	No	2	

- (b) If NO what type of job do you expect to get? Please write in this job title and the kind of work it involves.

(24,25)

64. When you think about taking a job in another plant or company, what do you think is the most important consideration?

Higher pay and benefits.	1	(26)
More interesting work.	2	
More security.	3	
More control over my work pace and quality	4	
Better chance to use my abilities.	5	
Better opportunities for advancement	6	
A greater sense of accomplishment.	7	

65. How many times have you been unemployed for more than a month since you first started to work full time?

Once	1	(27)
Twice.	2	
Three times.	3	
Four times	4	
Five times or more	5	
Never.	6	

66. What is your yearly income from your present job, before deductions? Remember that this information will be strictly confidential and you as an individual cannot be identified with it.

Under \$3,000	1	(28)
\$3,000 - 3,999.	2	
4,000 - 4,999.	3	
5,000 - 5,999.	4	
6,000 - 6,999.	5	
7,000 - 7,999.	6	
8,000 - 8,999.	7	
9,000 - 9,999.	8	
10,000 or more	9	

67. Does your wife/husband have a steady paying job?

Yes, full time	1	(29)
Yes, part time	2	
No	3	
I am not married	4	

68. How many persons (other than yourself) depend on you for more than half of their support?

None.	1	(30)
One	2	
Two	3	
Three	4	
Four.	5	
Five or more.	6	

69. If your wife or husband works, please indicate what her or his yearly income is.

Under \$ 1,000 -	1	(31)
1,000 - 1,999	2	
2,000 - 2,999	3	
3,000 - 3,999	4	
4,000 - 4,999	5	
5,000 - 5,999	6	
6,000 - 6,999	7	
7,000 - 9,999	8	
Over 10,000	9	

70. Taking into consideration all the things about your job (work), how satisfied or dissatisfied are you with it?

Very dissatisfied.	1	(32)
Fairly dissatisfied	2	
Neither satisfied nor dissatisfied	3	
Fairly satisfied	4	
Very satisfied	5	

71. About how long have you been with the company?

Less than one year	1	(33)
1 - 3 years.	2	
More than 3, but less than 6 years	3	
6 - 9 years.	4	
More than 9, but less than 12 years.	5	
12 - 15 years.	6	
Over 15 years.	7	

72. For how many years have you been working in the type of industry you're working in now (for example, you may have worked for more than one company all producing the same product or related products)?

Less than one year	1	(34)
1 - 3 years.	2	
More than 3, but less than 6 years	3	
6 - 9 years.	4	
More than 9, but less than 12 years.	5	
12 - 15 years.	6	
Over 15 years.	7	

73. What are your chances for promotion in your job?

Very good	1	(35)
Good.	2	
Fair.	3	
Poor.	4	
Very poor	5	

74. How satisfied are you with the following aspects of your job? Please circle one number only for each aspect depending on how satisfied or dissatisfied you are with it.

	<u>very</u> <u>satisfied</u>	<u>fairly</u> <u>satisfied</u>	<u>not</u> <u>certain</u>	<u>fairly</u> <u>dis-</u> <u>satisfied</u>	<u>very</u> <u>dis-</u> <u>satisfied</u>	
1. The conditions under which you have to work (lighting, ventilation, etc.)	1	2	3	4	5	(36)
2. The opportunities for advancement in your job.	1	2	3	4	5	(37)
3. The recognition you get from your job.	1	2	3	4	5	(38)
4. The amount of pay you get on your job.	1	2	3	4	5	(39)
5. The amount of security you have on your job.	1	2	3	4	5	(40)
6. Your control over the pace and quality of your work.	1	2	3	4	5	(41)
7. The amount of decision-making and responsibility demanded by your job.	1	2	3	4	5	(42)
8. The extent to which you can use your skills	1	2	3	4	5	(43)
9. The feeling of accomplishment from the work you are doing.	1	2	3	4	5	(44)
10. The amount of contact you have with other workers on the job.	1	2	3	4	5	(45)

75. How satisfied with their jobs do you think most of the workers in this firm/company are?

Very satisfied.	1	(46)
Fairly satisfied.	2	
Neither satisfied nor dissatisfied. . .	3	
Fairly dissatisfied	4	
Very dissatisfied	5	

76. If you were asked to advise a young boy just graduating from high school with good marks, which one of the following would you advise?

Would you advise him to:

Take the best job available?	1	(47)
To continue education through university?	2	
To train for a specialized occupation by apprenticeship, trade school or business school?	3	

77. Which one of the following comes closest to describing what you do on your job?
- | | | |
|--|---|------|
| Minding and checking a continuous automatic process. | 1 | (48) |
| Using tools to produce something that requires a lot of skill. | 2 | |
| Using and controlling a machine to do a job that requires a lot of decisions and skill on my part | 3 | |
| Using or tending a machine that does not require much skill. | 4 | |
| Always doing the same part of the job on an assembly line while other workers do other parts of the whole job. | 5 | |
| Not a production worker. | 6 | |
78. How do you feel you are on the technical side of your job?
- | | | |
|------------------------------------|---|------|
| Quite a bit below average. | 1 | (49) |
| A little below average | 2 | |
| About average. | 3 | |
| A little above average | 4 | |
| Quite a bit above average. | 5 | |
79. Which of the following kinds of jobs would you consider ideal for yourself?
- | | | | |
|---------------------------------------|-------------------------------|---|------|
| A job where the way you do your work: | Is always the same. | 1 | (50) |
| | Changes very little | 2 | |
| | Changes somewhat. | 3 | |
| | Changes quite a bit | 4 | |
| | Changes a great deal. | 5 | |
80. What do the members of your family think about your job?
- | | | | |
|--------------------------------|---------------------------|---|------|
| My family thinks that this is: | An excellent job. | 1 | (51) |
| | A good job. | 2 | |
| | A fair job. | 3 | |
| | A poor job. | 4 | |
| | A very poor job | 5 | |
81. How does your family feel about you working shifts?
- | | | |
|---|---|------|
| I do not work shifts. | 1 | (52) |
| They like to have me working shifts | 2 | |
| They don't mind whether I work shifts or not. | 3 | |
| They don't like to have me working shifts. | 4 | |
| They dislike very much my working shifts. | 5 | |
82. What do your friends outside of the company think about your job?
- | | | | |
|---------------------------|---------------------------|---|------|
| My friends think this is: | An excellent job. | 1 | (53) |
| | A good job. | 2 | |
| | A fair job. | 3 | |
| | A poor job. | 4 | |
| | A very poor job | 5 | |

83. Every person does some things better than he does others. Some are able to work better with machinery than with people - others are able to work better with people than machinery. How does it work out for you?

I am much better at working with machinery than I am at working with people. 1 (54)

I am a little better at working with machinery than I am with people 2

I am a little better at working with people than I am with machinery 3

I am much better at working with people than I am at working with machinery. 4

84. Do you think that business for your company will be better or worse in the next few years than it is now?

Business will be a lot better. 1 (55)

Somewhat better. 2

About the same as now. 3

Somewhat worse 4

Business will be a lot worse 5

85. Which of the following situations best describe the amount of contact you have with other workers on your job?

(a) I work in a team or gang with lots of contacts with other workers . . . 1 (56)

(b) I work with one other person in frequent contact. 2

(c) I work alone, but in easy talking distance from other workers 3

(d) I work alone, but can talk with other workers if I shout. 4

(e) I work alone and cannot talk to others without leaving my job 5

86. Do you and some of the other workers consider yourself a work group?

Yes 1 (57)

No. 2

If YES, PLEASE ANSWER THE NEXT 5 QUESTIONS.

If NO, TURN TO QUESTION 92.

87. How many people are there in your work group?

2 - 4 people 1 (58)

5 - 9 people 2

10 - 14 people 3

15 - 19 people 4

20 or more people. 5

88. How long have you been working with this group?

Less than 1 year 1 (59)

1 - 2 years. 2

More than 2 years, but less than 3 3

3 - 4 years. 4

More than 4 years, but less than 5 5

5 years or longer. 6

89. Do you feel that you are a part of your work group?
- | | | |
|---|---|------|
| Yes, I feel I really am a part of it. | 1 | (60) |
| Yes, I feel I'm included in most ways but not in all. | 2 | |
| Yes, but I feel I am included in only a few ways and not in others. | 3 | |
| No, I don't feel I really belong. | 4 | |
90. Would you mind being separated from your present work group?
- | | | |
|-------------------------|---|------|
| Yes, very much. | 1 | (61) |
| Yes, a little | 2 | |
| No, not really. | 3 | |
| No, not at all. | 4 | |
91. Which of the following statements best describes your work group?
- (a) My work group is a cheerful bunch who have a lot of fun together. 1 (62)
- (b) My work group is a close-knit group of friends who can rely on each other's help even outside the job 2
- (c) My work group works together very well and all try to do the best they can to reach their common production goals every day 3
- (d) My work group is very competitive, each one minds his own business. 4
92. How much time do you have during working hours to talk to other men?
- | | | |
|------------------------------------|---|------|
| I have no time at all. | 1 | (63) |
| I have too little time | 2 | |
| I have about enough time | 3 | |
| I have too much time | 4 | |
93. Can you do the work on the job and keep your mind on other things most of the time or not?
- | | | |
|---------------------|---|------|
| Often | 1 | (64) |
| Sometimes | 2 | |
| Seldom. | 3 | |
| Never | 4 | |
94. Is yours the kind of job in which someone would have to take your place if you had to leave your work for half an hour or so, or could you let your work go for half an hour and catch up on it later?
- | | | |
|--------------------------------------|---|------|
| Can leave without relief | 1 | (65) |
| Cannot leave without relief. | 2 | |
95. Which one of the following statements comes closest to describing how you feel about your present job?
- My job is interesting nearly all the time. 1 (66)
- While my job is interesting most of the time, there are some dull stretches now and then 2
- There are a few times when my job is interesting, but most of it's pretty dull and monotonous 3
- My job is completely dull and monotonous 4

96. On an ordinary workday, do you have to make decisions on your own when you are carrying out your tasks, or not?

Often	1	(67)
Sometimes	2	
Seldom.	3	
Never	4	

- E. The following questions deal with your company, the management and your supervisors. Remember that you as an individual will not be identified. Your responses as an individual will be treated as strictly confidential, and will not be disclosed to anyone. Again, please circle one number only for each question.

97. How do you think your firm or company compares with others as a place to work?

It is a better place to work than most.	1	(68)
It is about as good as most	2	
It is a worse place to work than most	3	

98. As compared to other firms in the industry do you think your firm is:

One of the most modern firms in this industry	1	(69)
More modern than most	2	
Less modern than most	3	
One of the most backward firms in the industry. . . .	4	

99. Do you feel your firm is more interested in cutting costs than it is in the people who work for the Company?

The Company is much more interested in cutting costs than in its people. . .	1	(70)
Somewhat more interested in cutting costs than in its people	2	
Equally interested in both	3	
Somewhat more interested in its people than it is in cutting costs	4	
The Company is much more interested in its people than it is in cutting costs.	5	

100. Do employees usually have to fight for what they get in your Company?

Usually	1	(71)
Sometimes	2	
Seldom.	3	
Never	4	

101. How do you feel about big companies in general?

Big companies are bad	1	(72)
Big companies are good	2	
Big companies are neither bad nor good . . .	3	

102. How well do you feel your firm is managed?

Not managed well at all.	1	(73)
Not managed very well.	2	
Fairly well managed.	3	
Very well managed.	4	

103. Which one of the following factors would you say is most important to you in your relationship to your Company?
- (a) The material benefits I get from my job (such as pay, security, etc.). 1 (74)
 - (b) My relationships and loyalty to the men who work with me and the Company itself. 2
 - (c) The sense of fulfillment and accomplishment I get from my job itself, quite apart from such things as security and wages 3
 - (d) The feeling of being a part of a concern that is trying to achieve certain goals and that I am contributing to reaching these goals . . . 4
104. How much influence do you and workers in general have on the way the plant or firm is run?
- A lot. 1 (75)
 - Some 2
 - Very little. 3
 - None 4
105. How much do you know about how your job fits into the total overall technical operation of this plant?
- A great deal 1 (76)
 - Quite a bit 2
 - Some 3
 - A little 4
 - Not much at all. 5
106. How often would you say your Company introduces changes in the way things are done?
- Very often 1 (77)
 - Quite often. 2
 - Seldom 3
 - Never. 4
- THE FOLLOWING EIGHT QUESTIONS ARE ABOUT YOUR FOREMAN. IF YOU DO NOT HAVE A FOREMAN PLEASE ANSWER THESE QUESTIONS ABOUT THE PERSON WHO MOST CLOSELY SUPERVISES YOUR WORK.
107. How long have you worked under your present foreman? (CARD 6)
- Less than 1 year. 1 (5)
 - 1 - 2 years 2
 - More than 2 but less than 3 years 3
 - 3 - 4 years 4
 - More than 4 but less than 5 years 5
 - 5 years or longer 6
108. When your foreman wants you to do something, how does he usually let you know what is wanted?
- Simply tells me. 1 (6)
 - Asks me if I will. 2
 - Explains to me why he wants it 3
109. Do you feel that your foreman is a part of your work group?
- Yes, he really is a part of our work group. . . . 1 (7)
 - Yes, he is included in most ways but not all. . . 2
 - Yes, he is included in some ways but not in others 3
 - No, he is not really a part of our work group . . 4

110. Does your foreman supervise you closely or does he leave you much on your own?

- | | | |
|--|---|-----|
| He supervises very little; I am definitely on my own | 1 | (8) |
| A little supervision; I am pretty much on my own | 2 | |
| A moderate amount of supervision | 3 | |
| Fairly close supervision | 4 | |
| He supervises very closely; he doesn't leave me on my own. | 5 | |

111. How good is your foreman at getting people to work well together, getting individuals to do the best they can, giving recognition for good work done, letting people know where they stand, etc?

- | | | |
|---------------------|---|-----|
| Very good | 1 | (9) |
| Good. | 2 | |
| Average | 3 | |
| Poor. | 4 | |
| Very poor | 5 | |

112. How good is your foreman at planning and scheduling the work?

- | | | |
|---------------------|---|------|
| Very good | 1 | (10) |
| Good. | 2 | |
| Average | 3 | |
| Poor. | 4 | |
| Very poor | 5 | |

113. Do you feel foremen in this firm are just doing what they are told and do not have much say in what should be done?

- | | | |
|---|---|------|
| They have a great deal of say | 1 | (11) |
| They have quite a bit of say. | 2 | |
| They have some say. | 3 | |
| They have a little say. | 4 | |
| They have very little or no say at all. | 5 | |

114. From where do you get information about what is going on in your firm? (Check as many as apply to you)

- | | | |
|--|-------|---------|
| From a separate information department (publishing magazines, bulletins, etc.) | _____ | (12,13) |
| Through the local union officers. | _____ | |
| From the supervisor | _____ | |
| Directly from management. | _____ | |
| From the men with whom you work | _____ | |
| I do not get any information. | _____ | |

115. How satisfied are you with the amount of information you get about what is going on in your Company?

- | | | |
|-----------------------------|---|------|
| Not very satisfied. | 1 | (14) |
| Somewhat satisfied. | 2 | |
| Fairly satisfied. | 3 | |
| Very satisfied. | 4 | |

116. Do you receive information in advance about any changes that affect you or your work?

- | | | |
|-------------------|---|------|
| Always. | 1 | (15) |
| Usually | 2 | |
| Seldom. | 3 | |
| Never | 4 | |

F. Before we come to the last section, we would like to ask a few questions about unions. Please circle one number only for each question.

117. Which one of the following four statements comes closest to your opinion of labour unions?

- (a) Labour unions in this country are doing a fine job. 1 (16)
- (b) While they do make some mistakes, on the whole labour unions are doing more good than harm 2
- (c) Although we need labour unions in this country, they do more harm than good the way they are run now. 3
- (d) This country would be better off without any labour unions at all . 4

118. Is your firm unionized?

- Yes 1 (17)
- No. 2

119. Are you a member of a union?

- Yes 1 (18)
- No. 2

120. Which one of the following statements comes closest to your views on responsibility for decisions about change?

- Management alone has the responsibility to make these decisions. 1 (19)
- Management alone has the responsibility to make these decisions but it should consult with the unions or workers. 2
- Management does not have the responsibility to make these decisions alone, the Unions have an equal responsibility and decisions should be made together. 3
- Management and the unions cannot decide these matters alone; the workers affected by the change should have a say 4

121. How many of the last three meetings of your union's local did you attend?

- I attended none of them. 1 (20)
- I attended one 2
- I attended two 3
- I attended all three 4

122. How much do local union officers care about workers in your firm?

- My firm is not unionized 1 (21)
- They care very much. 2
- Quite a lot. 3
- A little 4
- Very little. 5
- Not at all 6

123. Have you ever been a steward in a Union?

- Yes, once 1 (22)
- Yes, twice. 2
- Yes, many times 3
- No. 4
- I have never been in a Union. . 5

124. How much say does the union have in how this firm is run?

- | | | |
|------------------------------------|---|------|
| Very much. | 1 | (23) |
| Quite a bit. | 2 | |
| Some | 3 | |
| Very little. | 4 | |
| None at all. | 5 | |
| My firm is not unionized | 6 | |

125. In your opinion, how good are local union officers at fighting for the interests of workers?

- | | | |
|------------------------------------|---|------|
| Very good. | 1 | (24) |
| Good | 2 | |
| Fair | 3 | |
| Poor | 4 | |
| Very poor. | 5 | |
| My firm is not unionized | 6 | |

126. (a) Would you say labour-management relations in your firm are mainly marked by:

- | | | |
|------------------------|---|------|
| Conflict | 1 | (25) |
| or | | |
| Co-operation | 2 | |

(b) How do you feel about that?

- | | | |
|--|---|------|
| I think it is a good thing | 1 | (26) |
| I think it is a bad thing. | 2 | |
| I think it is neither good nor bad | 3 | |

G. Finally, some questions about change. On the inserted sheet, we describe a change that has recently been introduced in your Company. Please read this description carefully before you answer the following questions.

Most of these questions deal with the particular change described on the inserted sheet. Please keep this in mind when answering. Circle one number only for each question.

127. When the Company introduced the change, were the workers given any explanation of the reasons for the new set up?

- | | | |
|---|---|------|
| We were given full explanation of its reasons | 1 | (27) |
| Some explanation. | 2 | |
| We were given very little or no explanation of its reasons. | 3 | |

128. In your opinion, how basic or important was the change as it affected the jobs of most of the workers in the firm?

It was a very basic change that greatly affected the jobs of most of the workers in the firm. 1 (28)

It was a medium change that affected the jobs of the workers somewhat, but not drastically. 2

It was a very small change that only slightly affected the jobs of most workers 3

129. Would you say that from your point of view the change on the whole has been:

- | | | |
|--|---|------|
| A good thing | 1 | (29) |
| A bad thing. | 2 | |
| Neither one way nor the other. | 3 | |

130. Do you think the change was necessary to make the Company more efficient?

- | | | |
|--------------|---|------|
| Yes. | 1 | (30) |
| No | 2 | |

NOW WE WANT TO ASK YOU A FEW QUESTIONS ABOUT HOW THIS CHANGE AFFECTED YOU YOURSELF.

131. Has the change made any difference in your work?

- | | | |
|---|---|------|
| It has made <u>no</u> difference in my work | 1 | (31) |
| A little difference in my work | 2 | |
| Some difference in my work | 3 | |
| Quite a lot of difference in my work | 4 | |
| It has made a <u>great</u> deal of difference in my work. | 5 | |

132. Do you think you have better or worse chances for promotion as a result of the change?

- | | | |
|--|---|------|
| Better | 1 | (32) |
| Not affected or about the same | 2 | |
| Worse | 3 | |

133. Do you have fewer or more contacts with other workers on the job as a result of the change?

- | | | |
|--|---|------|
| Fewer contacts | 1 | (33) |
| Not affected or about the same | 2 | |
| More contacts. | 3 | |

134. Do you have more or less responsibility in your job as a result of the change?

- | | | |
|--|---|------|
| More responsibility. | 1 | (34) |
| Not affected or about the same | 2 | |
| Less responsibility. | 3 | |

135. Are you in general more or less satisfied with your job than you were before as a result of the change?

- | | | |
|--|---|------|
| More satisfied | 1 | (35) |
| Not affected or about the same | 2 | |
| Less satisfied | 3 | |

136. Are you more or less satisfied with the closeness of supervision of your job as a result of the change?

- | | | |
|--|---|------|
| More satisfied | 1 | (36) |
| Not affected or about the same | 2 | |
| Less satisfied | 3 | |

137. Are you more or less satisfied with the management of the firm as a result of the change?

- | | | |
|--|---|------|
| More satisfied | 1 | (37) |
| Not affected or about the same | 2 | |
| Less satisfied | 3 | |

138. Do you think you have more or less security in your job as a result of the change?
- | | | |
|---|---|------|
| More security | 1 | (38) |
| Not affected or about the same. | 2 | |
| Less security | 3 | |
139. Are you more or less satisfied with your pay as a result of the change?
- | | | |
|---|---|------|
| More satisfied. | 1 | (39) |
| Not affected or about the same. | 2 | |
| Less satisfied. | 3 | |
140. Do you have to pay more attention to the work you are doing as a result of the change?
- | | | |
|---|---|------|
| Have to pay more attention to my work | 1 | (40) |
| Not affected or about the same. | 2 | |
| Can pay less attention to my work | 3 | |
141. How did you feel about the advance notice of the change?
- | | | |
|---|---|------|
| We were given no advance notice | 1 | (41) |
| The notice was early enough | 2 | |
| The notice was not early enough | 3 | |
142. How did you feel about the information given to you about the change before its introduction?
- | | | |
|---|---|------|
| We received no information. | 1 | (42) |
| We did not receive enough information | 2 | |
| We received enough information. | 3 | |
143. Did the workers affected by the change participate at all or have an influence in making the decisions about the adoption of this change?
- | | | |
|---------------|---|------|
| Yes | 1 | (43) |
| No | 2 | |
144. If it would not make any difference in the pay or security of your job, would you like to see your job become more highly automated?
- | | | |
|--|---|------|
| I would like it very much. | 1 | (44) |
| It doesn't matter much one way or the other. | 2 | |
| I would dislike it very much | 3 | |
145. If some change in your work required you to learn new skills through retraining, which one of the following would you do?
- | | |
|--|------|
| Take a course at night at your own expense learning the new skills. 1 | (45) |
| Take a course <u>only</u> if management would pay part or all of the cost. 2 | |
| Prefer not to <u>retrain</u> even if you have to look for another job. . . 3 | |
146. If some change in your work meant that you would lose your job, which one of the following would you do?
- | | | |
|---|---|------|
| Accept this as a fact of life and look for another job. | 1 | (46) |
| Complain to management and the union. | 2 | |
| Participate in a strike against the Company | 3 | |
| Quit the job for another. | 4 | |

147. If some change in your work required you to relocate or transfer to another plant in your firm, which one of the following would you do?

Transfer to the other plant.	1	(47)
Complain to management but probably accept the transfer.	2	
Complain to the union and, if necessary, participate in a strike against the Company.	3	
Not transfer even if it meant I would lose my job.	4	

148. If some change in your work meant that you would have much less security in your job, which one of the following would you do?

Stay on the job, and adjust as well as you can.	1	(48)
Stay on the job, but complain to management and union	2	
Stay on the job, but start looking for another job.	3	
Take part in a strike against the Company	4	
Quit the job for another.	5	

149. If some change in your work made your job much more routine and monotonous, which one of the following would you do?

Stay on the job, and adjust as well as you can.	1	(49)
Stay on the job, but complain to management and the union	2	
Stay on the job, but start looking for another job.	3	
Take part in a strike against the Company	4	
Quit the job for another.	5	

150. If some change in your work meant that you would have much less contact with other workers on the job, which one of the following would you do?

Stay on the job, and adjust as well as you can.	1	(50)
Stay on the job, but complain to management and the union	2	
Stay on the job, but start looking for another job.	3	
Take part in a strike against the Company	4	
Quit the job for another.	5	

151. If some change in your work meant that you would have much less control over the pace and quality of your work, which one of the following would you do?

Stay on the job and adjust as well as you can.	1	(51)
Stay on the job, but complain to management and the union	2	
Stay on the job, but start looking for another job.	3	
Take part in a strike against the Company	4	
Quit the job for another.	5	

152. If some change in your work meant that you would receive quite a bit less pay in your job, which one of the following would you do?

Stay on the job, and adjust as well as you can.	1	(52)
Stay on the job, but complain to management and the union	2	
Stay on the job, but start looking for another job.	3	
Take part in a strike against the Company	4	
Quit the job for another.	5	

153. If some change in your work meant that you would have much less responsibility in your job, which one of the following would you do?

- | | | |
|---|---|------|
| Stay on the job, and adjust as well as you can. | 1 | (53) |
| Stay on the job, but complain to management and the union | 2 | |
| Stay on the job, but start looking for another job. | 3 | |
| Take part in a strike against the Company | 4 | |
| Quit the job for another. | 5 | |

154. If some change in your work made you much less satisfied, on the whole, with your job, which one of the following would you do?

- | | | |
|---|---|------|
| Stay on the job, and adjust as well as you can. | 1 | (54) |
| Stay on the job, but complain to management and the union | 2 | |
| Stay on the job, but start looking for another job. | 3 | |
| Take part in a strike against the Company | 4 | |
| Quit the job for another. | 5 | |

155. On the whole, did you find the questionnaire interesting?

- | | | |
|-----------------------------|---|------|
| Very interesting. | 1 | (55) |
| Fairly interesting. | 2 | |
| Fairly dull | 3 | |
| Very dull | 4 | |

156. How long did it take you to fill in the questionnaire?

- | | | |
|---|---|------|
| One hour or less. | 1 | (56) |
| More than 1 hour, less than 1-1/2 hours | 2 | |
| More than 1-1/2 hours, less than 2 hours. | 3 | |
| More than 2 hours | 4 | |

157. If you have any comments, please use the space below to write in:

THANK YOU VERY MUCH AGAIN FOR YOUR TIME AND CO-OPERATION.

APPENDIX C

SAMPLE OF CHANGE EVENT (Inserted in Questionnaire for Oil 1)

In 1967, Oil 1 constructed Complex No. 1 at its _____ Refinery as part of a modernization program. This complex integrates several process units, some of which are new additions, and combines them into a complex with central controls. It also includes a computer which will control part of the production process automatically. Complex No. 1 started to become operational early in 1968.

In answering section G (starting with question 127, in the middle of page 31), please keep this change event in mind.

APPENDIX D

LETTERS TO RESPONDENTS

1. Letter accompanying questionnaire.
2. First reminder (postcard).
3. Second reminder (letter).
4. Final letter to respondents of selected companies.

1. Letter Accompanying Questionnaire.

University of Toronto

Department of Sociology
563 Spadina Avenue
Toronto 5

May 24, 1968

Dear Sir,

The enclosed questionnaire is being mailed to 5,000 Canadian industrial workers in six different industries. Oil 5 is one of the firms selected to represent the oil industry. We have discussed this study with Mr. _____, President of Local _____, the Oil, Chemical and Atomic Workers International Union, as well as with Mr. _____, Manager at the _____ Refinery. Both have given their approval and co-operation to the survey.

We should like to make an appeal for your personal co-operation. We feel that this is an important opportunity for working people in various industries to express their opinions and attitudes towards their place in industry. We urge you to use this opportunity. Remember that your views will not be identified with you as an individual, but will be kept strictly confidential. The number on the front of the questionnaire is necessary for the distribution and collection of questionnaires going out to workers in the different industries. By checking off the numbers of returned questionnaires we are able to send reminders only to those people who have not returned theirs. After the information has been transferred to IBM cards, the questionnaires are destroyed to ensure anonymity.

We ask you kindly to fill in the questionnaire - tonight, if possible - and return it to us in the enclosed stamped envelope as soon as possible. So far most people to whom we have mailed the questionnaire have co-operated by completing and returning it promptly.

Thank you very much.

Sincerely yours,

Jan J. Loubser
Associate Professor,
Project Director,
Task Force on Labour Relations

2. First Reminder (Postcard)

Department of Sociology,
University of Toronto,
563 Spadina Avenue,
Toronto 5, Ontario.

Dear Sir:

About a week ago we mailed a questionnaire to you. Although we have received most of the questionnaires back, some are still outstanding.

The success and meaning of the study depend on all people sending back the questionnaire if possible.

If you have already returned yours, please accept our thanks.

If you have not yet returned yours, please do so tonight if possible, or as soon as you can.

We look forward to receiving your completed questionnaire and want to assure you once again of our appreciation.

Sincerely,

Jan J. Loubser
Associate Professor

3. Second Reminder (Letter)

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University of Toronto

DEPARTMENT OF SOCIOLOGY
563 SPADINA AVENUE
TORONTO 5

June 13, 1968

Dear Sir:

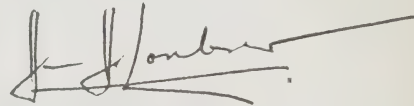
We have not yet received back your Task Force on Labour Relations questionnaire which we mailed to you two weeks ago.

We once more appeal to you for your cooperation on this important study. Recent events in the field of labour management relations show again how important it is that we try to understand the problems involved as best as we can. You can make a contribution to this understanding by filling out the questionnaire. By finding out how the people most directly affected by these problems feel and think about them we might be able to solve some of them eventually.

We think you will find the questionnaire interesting and well worth the time it takes to fill it out. However, if you are unable to complete it, would you please be so kind to mail it back to us in the stamped and addressed envelope provided? But please make an effort to complete it.

We assure you of our sincere appreciation of your contribution.

Yours very truly,



Jan J. Loubser,
Project Director

JJL:hrl

4. Final Letter to respondents of selected companies

University of Toronto

DEPARTMENT OF SOCIOLOGY
563 SPADINA AVENUE
TORONTO 5

June 20, 1968.

Dear Sir,

It is now about a month since we mailed to you a questionnaire for a study we are doing for the Prime Minister's Task Force on Labour Relations. In the meanwhile we also have sent a post card and a letter asking again for your participation or the return of the blank questionnaire.

Since we have not received the questionnaire back, blank or completed, we are wondering whether you ever received it. We are most anxious to have your participation and would be willing to send you another questionnaire if you have misplaced the one we previously sent to you. If you still have the questionnaire we would like to make a final courteous appeal for your participation. We now can tell you that the number on the questionnaire is no longer necessary since we have the other questionnaires in and will not be writing to you again. You could therefore remove the number and send us the questionnaire if that was the reason you were reluctant to complete it. Similarly, we will remove the number on the new questionnaire we send you if you want us to do so. In this way you could be sure that the questionnaire could not be identified as yours.

If you wish another questionnaire to be sent please check here. ☐

If you do not wish to participate in this study, we would be very much interested in learning your reasons since it might help us interpret our results and evaluate our methods. If so, would you please comment freely and fully on your reasons? We would appreciate your frankness on the matter.

Comments: _____

(Use the back of the sheet if you need more space)

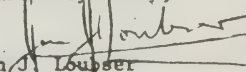
We should like to know your age and education if you don't mind. Please write in the numbers in the box to the right.

Age

No. of years of education

We enclose a stamped self-addressed envelope for your convenience. We would be most obliged if you would return this letter to us with your comments and, if you are asking for a questionnaire to be sent, we want to thank you warmly for your participation.

Yours, very truly,


Jan J. Louder
Associate Professor

JJL:ah

APPENDIX E

ATTITUDES DES TRAVAILLEURS DE CERTAINES INDUSTRIES A L'EGARD DES PROGRES TECHNOLOGIQUES ET DES AUTRES CHANGEMENTS SURVENANT DANS LES ENTREPRISES

RESUME

Cette étude avait pour but principal d'étudier les corrélations entre les réactions devant les transformations industrielles et divers aspects des rapports entre le travailleur et son travail, et l'organisme au sein duquel il est employé.

Les données ont été rassemblées au moyen d'une enquête effectuée par correspondance. L'échantillon final comprend 2,832 travailleurs directement affectés à la production, main-d'oeuvre spécialisée et agents de maîtrise appartenant à dix-sept sociétés canadiennes choisies dans six secteurs différents de l'industrie: automobile, produits chimiques, équipement électrique, produits pétroliers, imprimerie et acier.

L'analyse portait sur deux catégories principales d'attitudes à l'égard de l'évolution industrielle. La première catégorie avait trait à la perception, à l'appréciation et à la réaction par rapport à des événements qui, dans chaque société avaient marqué un véritable changement. La seconde catégorie portait sur les réactions vis-à-vis de conséquences, hypothétiques mais définies, que l'évolution industrielle peut entraîner, telles que le

recyclage, le déplacement ou la prise en charge de certains frais personnels occasionnés par ces changements industriels.

Nous avons rapproché un certain nombre de facteurs généraux ou liés au travail de ces deux aspects différents de la réaction à l'égard de l'évolution industrielle. Nous avons d'abord examiné les tendances générales du travailleur ou ses aptitudes psychologiques au changement. A partir de là nous avons étudié les attitudes du travailleur par rapport à son travail (satisfaction ou aliénation d'ordre intrinsèque et extrinsèque). Puis nous avons considéré la situation du travailleur sous des aspects plus diversifiés, tels que sa qualification professionnelle et la place de la technique dans son travail. Ceci nous a conduit à considérer l'importance de certains facteurs liés à la nature de l'entreprise ou de la société ainsi qu'aux relations du travailleur avec l'organisation. Enfin, nous avons examiné la réglementation du travail et l'influence de celle-ci sur la façon dont le travailleur verra et acceptera les transformations industrielles. Pour chacune de ces relations, nous avons cherché à déterminer le rôle des variables sociales que sont l'âge et l'instruction.

L'importance relative de ces facteurs varie énormément. Les tendances générales, les aptitudes psychologiques au changement ne s'apparentaient pas aux perceptions ou aux appréciations des transformations effectives mais elles étaient étroitement liées à une prompt acceptation des diverses conséquences de l'évolution. On a trouvé un lien plus étroit entre l'attitude du travailleur vis-à-vis son emploi (satisfaction ou aliénation à l'égard de son travail) et la façon dont il réagissait au changement. On a trouvé que ceux qui étaient satisfaits de leur travail étaient plus favorables au changement, estimaient qu'ils en étaient informés suffisamment à l'avance et étaient prêts à en assumer certains frais.

L'une des constatations les plus importantes, en ce qui concerne la qualification professionnelle, a été que la gérance et les contremaîtres étaient de loin les plus favorables aux changements et les plus prompts à en accepter les conséquences.

Parmi les nombreux facteurs qui interviennent dans les relations entre la direction et les travailleurs, l'idée que ce dernier se fait de son employeur détermine la façon dont il réagira à l'égard du changement. Ceux qui sont bien disposés seront vraisemblablement en faveur de l'évolution industrielle.

Le climat des relations entre la direction et le travailleur s'est avéré très important. Les travailleurs qui y voyaient un esprit de collaboration signalaient, plus volontiers que les autres, l'aspect positif du changement et se déclaraient plus disposés à en accepter les conséquences. En outre, ce climat influait sur tant d'aspects des relations entre le titulaire et son travail (attitude vis-à-vis de son poste et de sa société) que nous nous sommes efforcés de le cerner de très près dans l'examen de chaque attitude.

Sur le plan social en général nous avons trouvé que l'âge et l'instruction constituaient des facteurs importants en ce qui concerne les attitudes et la réaction à l'égard du changement industriel; on notait que les plus jeunes et ceux qui avaient reçu une meilleure instruction étaient aussi ceux qui considéraient ces changements d'un oeil favorable mais qui, le moins volontiers, acceptaient d'en assumer personnellement les frais.

L'analyse a révélé de façon évidente qu'il faudra entreprendre une étude, bien conçue, de nombreux cas pour déterminer et évaluer le rôle et

les conséquences de tous les facteurs étudiés au cours de cette enquête. Toutefois, dans un domaine où l'on n'a procédé à aucune recherche analogue, nous sommes conscients que cette étude est très utile puisqu'elle a identifié et examiné quelques-uns des principaux facteurs de la façon dont les gens réagissent à l'égard du changement industriel.

NOTES

